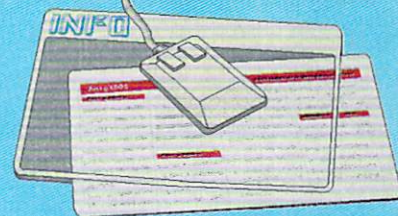


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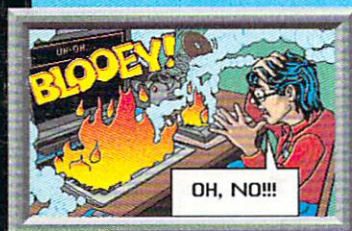
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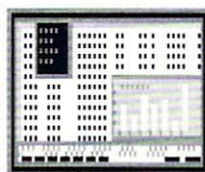
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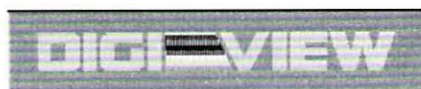


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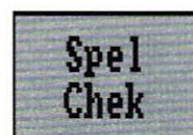
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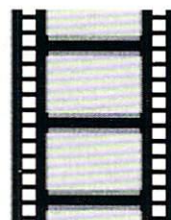
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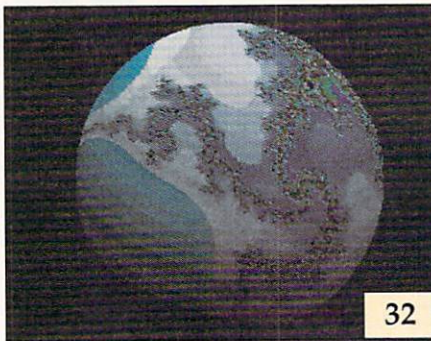
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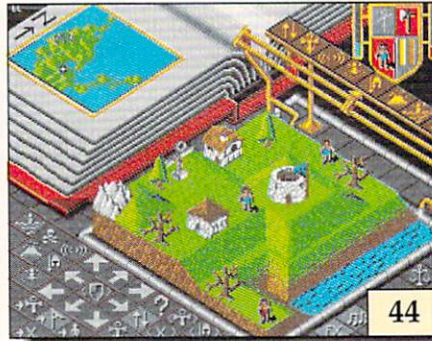
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CONTENTS 27

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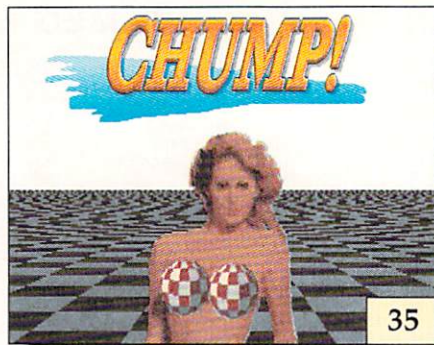
- 22 INTERVIEW: DALE LUCK** One of the original Amiga Designers, Dale is also the producer of Xwindows and the BOING Mouse. Find out why Dale's name strikes terror into the hearts of the Commodore board, and how you can buy a BOING Jacket!
- 26 FUN WITH AMIGA SOUND:** We all know the Amiga is great for serious musicians, but what about the rest of us? Here are 23 products for just foolin' around.
- 32 FRACTAL VISIONS:** INFO Staffer Tom Malcom revisits the fascinating world of fractal art with a look at nine commercial and public domain programs.
- 35 CHUMP:** Our annual romp into the forbidden land of computer industry irreverence.

DEPARTMENTS

- 6 Editors' Page
- 8 Reader Mail
- 10 News & Views
- 18 New Products
- 20 Magazine Index
- 44 Games for Amiga
- 52 Games for C64
- 57 geoStuff
- 58 Copy Corner
- 59 Public Domain

Reviews

- 19 Masterpiece
- 30 Mindlight 7
- 57 geoProgrammer
- 58 Maverick 2.0
- 58 RAMBOard
- 63 Professional Data Retrieve
- 65 Silentwriter LC890
- 69 Transcript



35

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- 14 Show Report
- 25 Real World
- 31 INFO Update
- 43 BRYCE
- 66 Back Issues
- 67 FREE MousePad
- 76 Ad Index

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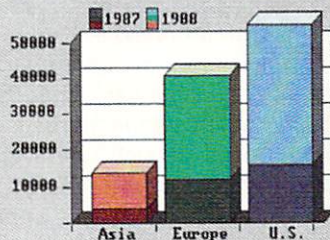
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OPERATING EXPENSES				
Cost of sales	208,176	20,100	392,358	36,398
Selling, general, and administrative	384,438	97,180	695,968	169,036
Research and development	46,548	14,815	89,667	26,289
Income from operations	312,284	112,531	585,386	205,290
Equity in loss of S.W. operations	(15,681)		(21,813)	
Interest Income	7,347	5,337	10,817	6,241
Income before federal income taxes	303,940	117,868	574,390	211,531
Provision for federal income taxes	119,500	51,000	217,500	91,100
Net Income	190,340	66,868	356,890	120,431
Net Income per share of common stock	\$0.17	\$0.08	\$0.31	\$0.11

... and they are better than expected.

In the first quarter of 1988 each division took advantage of strong economic conditions in their respective territories to post sales figures well in excess of their goals.

Rigorous cost cutting combined with the new distribution system have helped keep our operating expenses in line. Net income before taxes increased 285 % over the same period last year.

There is every indication that these increases will continue through the next three years. Many thanks go to the entire company for good work.



Pen Pal gives you the power to create effective and attractive written communication. With Pen Pal you can mix text, graphics, pictures, and data in ways no other Amiga word processor can do.

SoftWood Company
P.O. Box 50178
Phoenix, Arizona 85076

July 22, 1989

Dear Sirs,

Hello! I am writing this letter using your new program "Pen Pal". Normally I do not correspond with computer companies - but this time I had to make an exception.



I have been an Amiga owner since the early part of 1986. Originally I purchased my computer so that I could create colorful letters, useful forms, and effective business graphics. Although no program existed that allowed me to do that at the time, I was confident that sooner or later someone would provide such a program. After two disappointing years, I almost gave up. Then I saw your program "Pen Pal" on my dealer's shelf. According to the package, I found that I might finally be in luck. Although I purchased the program, I was afraid that in reality the program would not do every thing the package said it would do.

As soon as I got home from the computer store I fired up your program on my computer. Without even reading the manual I was soon creating documents with color and pictures. As you can see in this letter, I have gotten pretty good at your program's graphic object drawing features.

One pleasant surprise I had was to discover that Pen Pal contains a built-in database. I now have entered my Christmas mailing list, client database, and cajon cooking recipes in Pen Pal databases. When I send my Christmas cards this year I will use Pen Pal to print mailing labels. I am designing my own Christmas cards using Pen Pal along with some pictures I drew in a paint program. I plan to use the mail-merge feature to merge my mailing list names with my Christmas cards.

At work we have been using some forms that were hard to read and in need of change. Recently I redesigned all of these forms using Pen Pal. The box and line drawing tools were just what was needed. I could go on and on about the many ways I am using your program. Thanks for developing such a handy tool.

Best regards,

Fred Farkle, Jr.

Pen Pal has Power!

\$149.95

Developed by SoftWood, Inc.
Distributed by Brown-Wag Publishing

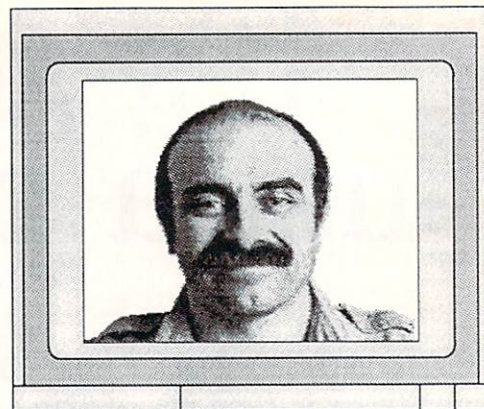
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Mark R. Brown
Sr. Editor

INFOforials



Benn Dunnington
Publisher

MISSED DIRECTIONS

Commodore has never been known for its great marketing. Nor is it known for customer service, brand recognition, a complete product line, or any of the other things that make the great computer companies great. All Commodore has ever done and done fairly well is to sell good computers at a good price.

But they've made some dumb mistakes in the process. One of the biggest was the abortive Plus/4, generally recognized as the Edsel of home computers. And now it looks like Commodore may repeat that massive mistake by introducing a new 8-bit computer. A new 8-bit computer? Yes, you heard right. Word from inside Commodore is that the new "CGS" (like "Apple IIGS") will be faster and have more RAM and prettier graphics than the C64. The preliminary specs indicate it will have a built-in 3.5" drive, 128K of RAM (expandable to one meg), a new high-speed 4 MHz 6502 cpu, and will run C64 software, all for about \$300-350. The graphics sound particularly impressive: 320x200 to 640x400 resolution with up to 8 bitplanes - that's 256 simultaneous colors out of a palette of 4096. There will even be routines to read and save IFF format files!

The problem is not that it wouldn't be nice to have another 8-bit machine. But you know and I know that it's about three years too late to introduce one. Why doesn't Commodore know this? If they build a new 8-bit computer now the dealers won't handle it, the consumers won't buy it, and the developers won't write software for it.

But the real problem is the misallocation of resources that this machine represents. With only two real Amiga models in the stores, Commodore hasn't even come close to filling all the niches. The A2000 and A500 are nice machines, and well-positioned for their intended markets. But lots of other people fall through the cracks and end up with Macintoshes or MS/DOS computers. The A2500 has some good features, but it is too expensive because it takes the approach of adding plug-in cards to the base A2000 design. Commodore needs a less expensive 2500-level model with the features on the motherboard. And many people have asked for an expandable Amiga without the expensive IBM-compatibility slots. Commodore also needs a 68030 Amiga model, preferably with higher-resolution color graphics to compete with the Mac II. A case could even be made for a cost-reduced Amiga 500 with a price of less than \$500.

In the meantime, the C64 and C128 are still selling well

continued on pg. 70...

TWO SHORT STORIES:

THE "GREAT SUMMER SLUMP" MYTH

Once Upon a Time, when personal computing was in its youth, everyone in the industry was happy, busy with great projects, and making plenty of money (except maybe Adam Osborne). Apple, Atari, Coleco, Commodore, H.P., Kaypro, Tandy, Texas Instruments, and even IBM were making personal computers, and consumers were buying them in astounding numbers. By Christmas of 1983, aided by some pretty questionable marketing angles (get a computer, and your life will be simple and prosperous - don't, and you will be a miserable failure), personal computer sales hit their first peak.

Software companies (many of which sprang up like fungus after a brief rain) found that they could sell almost anything (which is just what some tried to sell). It seemed that any dweeb who could tie his or her own shoes and pronounce the word "software" could round up a few million dollars in venture capital to get into the software business.

Sometime early in 1984, a sizeable segment of perceptive consumers began to realize that their computer-illiterate neighbors were still getting by somehow, that their over-hyped PC's were not straightening out their lives or businesses, and that much of the software they were sold was just hi-priced junk.

It shouldn't have come as such a shock when software sales went flat that summer, but many companies were so out of touch with consumers that they were badly stung or even completely wiped out in what has come to be known as "The Great Summer Slump" of '84.

In many ways the ensuing shakeout was good for the industry, removing a lot of deadwood in the process. What has remained, however, is an almost superstitious fear and distrust by most software companies of the spring and summer months. Many companies either drastically reduce or entirely suspend product introductions and advertising campaigns from about April through July every year. The marketing geniuses are quick to explain: "Everybody knows that software doesn't sell in the summer!" Of course it doesn't sell - with no new products and no advertising, what's to sell?

This is a classic case of self-fulfilling prophecy, and it has happened every year since "The Great Summer Slump" of '84.

The moral: The "Summer Slump" is a myth, and any

continued on pg. 70...

Magic Johnson's BASKETBALL

IDENTICAL TO THE ARCADE GAME!
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AMIGA VERSION

*Basketball the way
the Pros play.*

Arcade action brings the realism of the big time game home to you in this direct translation of the popular coin-op arcade game, "Magic Johnson's Fastbreak Basketball."

Featuring:

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- a full-court scrolling screen
- two-on-two play, WITH OFFICIALS!
- full stats - see if you can achieve Triple Doubles like Magic!

Make the "jump shot," the "alley oop," and of course Magic's famous "fast break" with a "slam dunk" finish. Dribble 'round your opponent to make the "lay up" that wins the game!

Now you've earned the honor of playing the ultimate One-on-One...

you against Magic Johnson.

Available now:	Amiga (1 mg)	- \$49.99
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	Commodore 64	- \$29.99
Coming soon for:	Amiga (512 K)	- \$39.99
	Apple IIGS	- \$39.99



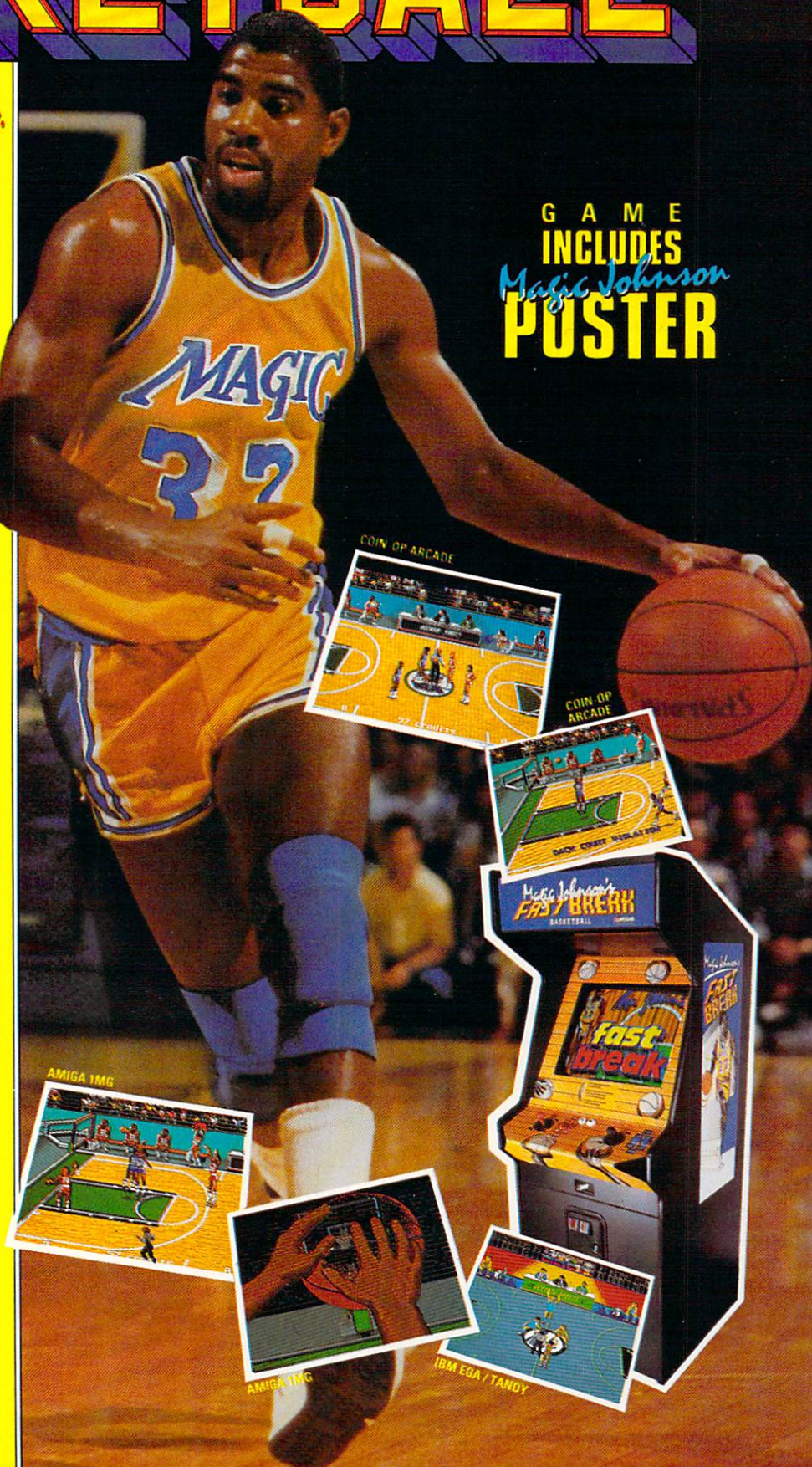
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Please don't call the INFO offices with general questions about computing or send self-addressed stamped envelopes expecting a personal reply. We just don't have the staff to handle it.
Thanks.

QLink Mail From: Aragorn5

Have you heard anything more about the 'new 8-bit computer' from Commodore that's supposed to be '64 compatible'? I have been hearing rumors that this new compatible is in fact an Amiga computer with both 6502 and 68000 microprocessors, along with all other necessary chips, plus a 3.5" drive. Some folks are even saying that its going to be a portable like the SX-64. Is any of this true?

The rumors were launched by an April newspaper article in which Commodore Chairman of the Board Irving Gould let slip that a new 'Super 64' was in the works. Contacts tell us that Commodore is now definitely working on such a

C64-compatible computer, tentatively called the 'CGS' (like 'Apple IIGS') and scheduled for Christmas release. Tentative specs: built-in drive; 128K RAM; Amiga-like graphics (but no blitter); and new superfast 8-10 MHz 6502 processor. It will definitely not be Amiga (or even C128) compatible.

- Mark & Benn

QLink Mail From: Steve Emsley [SteveE8]

In your review of the *Enhanced SID Editor*, you left out a very important fact: the absence of a public domain player that will handle the new features. The same thing that skyrocketed the original *SID Editor* to popularity is killing the enhanced version. Some of the people I know who have bought the *Enhanced SID Editor* will not use enhanced commands because they can't be heard by the thousands of people who only have PD players.

*It's too bad Compute! Books didn't see fit to include a freely distributable player on the *Enhanced SID Editor* disk. Let's hope a PD author jumps in and fills the gap quickly.*

- Mark & Benn

QLink Mail From: EdP17

Here are a couple of books to add to your list of cyberpunk novels: *The Long Orbit* by Mike Farren (Ballantine Books), and *Islands in the Net* by Bruce Sterling (Avon books).

Thanks for the INFO. You can never be too rich, too thin, or have enough cyberpunk SF to read. **- Mark & Benn**

U.S. Mail From: Glenn L. Lielsen, Express-Way Software
I would like to thank INFO for announcing and reviewing *ExpressCopy*. However, I would like to address the amount of time required for *ExpressCopy* to perform a hard disk backup. The time you listed for *ExpressCopy* was the slowest of the four products reviewed. From looking at the time you obtained, it was obvious that *ExpressCopy* was not only writing out the data to disk, but verifying the data that was written. This essentially doubles the amount of time needed for the backup. *ExpressCopy* will verify the data written to floppy disk when you select the VERIFY option. It also checks each disk you insert, and for your protection, automatically FORMATS and VERIFYS a new diskette to ensure that the diskette is not defective. If VERIFY is turned off, only new diskettes will be verified.

I would also like to inform your readers that an update to *ExpressCopy* is currently in testing that can fill each backup disk to 99% full, leaving on average only 5 free blocks per disk.

*Though we turned VERIFY off for our test, as we did for all the backup programs tested, we used new, unformatted diskettes for our timing tests, and were unaware that *ExpressCopy* performs an automatic VERIFY under those conditions. Though such efforts at safety are laudable, they do severely impact backup times. Obviously, this approach will appeal to the safety-conscious, but not to those in a hurry.* **- Mark & Benn**

U.S. Mail From: Ani Miga

I read in last issue's "New Products & Reviews" section about the new graphic wordprocessor *Pen Pal*. I have seen this new wonder and agree that it is going to be a very impressive piece of software. My problem? This program is written and produced by Soft-Wood Company, not Brown-Wagh. Nowhere in the article was any mention made of the hard working and dedicated programmer, Woody Williams. Let's give credit to the people who really create programs, not just the ones who sell them!

Alas and alack, the days of the superstar programmer with the Porsche and the gold-plated joystick are long gone. Most now squint at tiny monitors in darkened rooms while the marketing people stand out in the public light in their natty three-piece suits. Consider kudos given not only to Woody, but to all programmers who slave away unheralded. By the way, who is that hiding behind the obvious pseudonym 'Ani Miga'? Are you Woody's mom?

- Mark & Benn

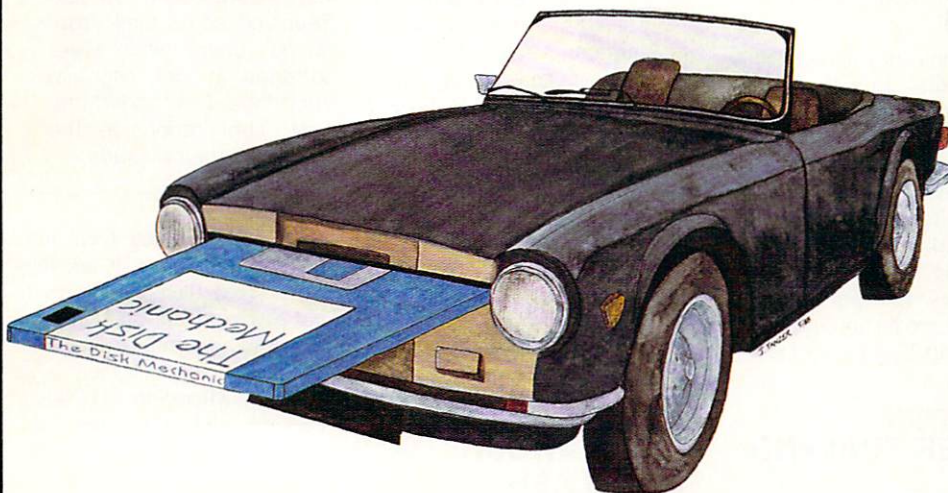
U.S. Mail From: Douglas Wilson

Are you tired of paying a high price for color inkjet cartridges? It averages about \$20 for a rainbow pack of four ink cartridges for my Xerox 4020 color inkjet printer. For about a year now I have been using food coloring to recharge my old cartridges with great success. It has the same ingredients as the ink, and if you look around and find the right colors they are just as brilliant. Do not use dyes that have other ingredients, just stick to plain old food coloring. I have even found black food coloring through a company that sells candy flavors and coloring called "Lorrain Oils." Now if someone would give me a good price on clay coated paper I would be happy.

We haven't had a chance to try this tip out, so we offer it "as is," without INFO's warranty or seal of approval. But we've got to admit, the colorful letter Doug sent us looked great!

- Mark & Benn

More mail on page 25 . . .



Give Your Disks a

Tune-up

The Disk Mechanic is a comprehensive collection of disk management tools for the Amiga. The package includes a disk optimizer, hard disk back-up program, file recovery program, disk editor, and a dozen CLI utilities.

With the TuneUp disk optimizer you can increase floppy and hard disk performance up to 500%.

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DoubleBack makes the task of regular hard disk back-up fast, easy, and safe.

All this and more for only \$89.95 suggested retail price. Dealer inquiries welcome. **Amiga** is a trademark of Commodore-Amiga, Inc.

The Disk Mechanic

The Disk Mechanic requires a 512K Amiga and Kickstart version 1.2 or later. We are now shipping Version 2.5: registered owners should contact us for upgrade details.

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News & Views

HELLO, GOODBYE

As you are probably aware by now, the revolving door on Commodore's main office has rotated once again. Max Toy, who was President and Chief Operating Officer of Commodore for only about a year, is gone. He has been replaced by Harold (Harry) Copperman, former vice president and general manager of Apple's Eastern Operations. Previous to his year with Apple, Copperman was with IBM for 20 years. In the press release announcing the change, Copperman was quoted as saying he "plans to take advantage of Commodore's broad range of products to further penetrate the education market and to expand our use of value-added resellers. We will also continue to build and enhance our dealer distribution network." INFO sources say Copperman is a long-time friend of Commodore Chairman of the Board Irving Gould, and they expect to see few changes in the way the company is being run. INFO's calls to Copperman's office were returned by a Commodore spokesperson who told INFO that Copperman is remaining "away from the press for a couple of weeks until he gets his footing here." He is slated to make his first public appearance at the Los Angeles World of Commodore Show.

SIMPLER NETWORKING

Vendors have introduced new single-chip AppleTalk and EtherNet controller chips that should make network interface boards simple to design and inexpensive to buy. The EtherNet chip is from NCR, the AppleTalk chip from the Tops division of Sun Microsystems.

STOCK PURCHASE

FMR Corp., which manages the Fidelity group of mutual funds, has purchased 7.38% of Commodore International's stock. Fidelity is a well-established, highly respected mutual funds group. Since mutual funds rarely engage in takeovers, financial experts say that this purchase should not be interpreted as showing any intention of attempting a takeover of Commodore. Irving Gould, Commodore's majority stockholder and Chairman of the Board, is said to hold approximately 19% of Commodore's stock.

NEW REMOVABLE MEDIA

Panasonic has announced a new disk drive that uses a 3.5" metal disk to store 11 megabytes of data. The 3511 has a built-in SCSI interface, and is read-only compatible with existing one and two meg floppy disks. Speeds will be comparable to many existing hard drives. List price is only \$250, and production quantities will be available this summer.

DEALER TRAINING

We've heard good things about Commodore's new dealer training program. The program offers training in graphics design, desktop publishing, and desktop video applications, and dealers walk away from the program with appropriately-configured demonstration systems and the skills to adequately demonstrate them to customers. They are taught to perform actual walk-throughs of Amiga software like *Deluxe*

NO PRESSURE

We got mail from a whole bunch of readers asking about a picture of the Amiga that appeared on page 13 of the premiere issue of Scientific American's *Trends in Computing* magazine. The photo, which depicted a little girl using an Amiga paint program, took up almost the entire page and clearly showed an Amiga 1000 computer and 1080 monitor, but the Amiga logo had been carefully airbrushed out. We contacted Scientific American and asked them what had happened.

Laurie Burnam, a spokesperson for Scientific American, said that their art department had airbrushed the logo to "avoid the look of an advertisement." She said, "We did

not feel it would be appropriate to display a specific brand of computer in such a prominent way, especially so near to the front of the magazine." When asked if any other computer logos had been airbrushed in other photos, Burnam replied "There weren't any other logos removed."

IBM was the majority advertiser in the *Trends in Computing* premiere issue, but Burnam told us that Scientific American had "received no pressure" from IBM to avoid mentioning other computer systems editorially. Burnam also told INFO that Scientific American had "received some mail" from Amiga users who were outraged at their slight to the Amiga. She added that they might "reconsider the policy" for future issues.

Paint III, *DigiView*, and *Professional Page*, and are provided with a sales kit to launch them into their chosen markets. It's a good step in the right direction.

ANTI-LAWSUIT BACKLASH

Some researchers at MIT's Artificial Intelligence Lab have begun a boycott of litigious computer companies in an effort to reduce the number of lawsuits in the computer industry. Marvin Minsky, the director of the Lab, and senior staff member Richard Stallman have founded the Free Software Foundation to fight what they call the "stifling of new development" caused by the prolifer-

ation of "look and feel" lawsuits. In a newspaper ad, they have urged their colleagues to not perform work for Lotus and Apple in order to pressure them to drop "look and feel" suits against MicroSoft, Hewlett-Packard, and two Lotus 1-2-3 clonemakers.

16-BIT GAME MACHINE

Sega has introduced a new 16-bit home videogame machine called *Genesis*. The new machine is faster, with higher-resolution graphics and stereo sound, and an adapter will allow it to be used with existing Sega Master System games. It will make its debut at Chicago CES.

WORDPERFECT CUTS BACK

The Amiga community reacted strongly recently when WordPerfect Corp. announced that they were cutting back on Amiga program development. In their original announcement, WordPerfect indicated that they would cut the Amiga staff down to a skeleton crew, handling only bug fixes for the current version of WordPerfect as well as continuing to provide customer support. They also said that development work on version 6.0 of WordPerfect would stop, as would work on the PlanPerfect spreadsheet, which was nearing the beta test stage.

After a tremendous outcry from the Amiga community, WordPerfect acknowledged that they may have been "hasty" in cutting back so severely on Amiga product development. In response, they added back some staff members and pledged to continue development of an "upgrade" to the current WordPerfect. They emphasize that this will "not be 6.0", but an upgraded and bug-swatted upgrade to the current version of WordPerfect, with "some added features" that remain unspecified. Graphics are still a "possibility" according to Reed Hainsworth, head of the Amiga development group. He added that the upgrade would be available soon.

The Amiga was the main development machine for WordPerfect 6.0, but work has been transferred to another development group. The Amiga code has been shelved "until we decide whether it will be worthwhile to put out a 5.0 or a 6.0 version," Hainsworth said. He added that PlanPerfect had been "put on hold."

Disappointing continuing sales of WordPerfect, combined with lower than expected sales of WordPerfect Library, were the major forces behind the decision to cut back, said Hainsworth. He added, "Our programmers love the Amiga, and are very devoted to it. That's how WordPerfect got into the Amiga market in the first place. We still have a support and marketing staff for the Amiga, as well as a dedicated group of programmers, and we're planning to continue support and development for the Amiga, but at a slower pace."

INFOMania Game Tips

Here are some secret "side doors" and "back doors" to your favorite C64 and Amiga games, discovered by INFO readers!

C64

Chop N Drop: Press the 'S' and 'E' key at the same time and any Karate guy who is standing up will have his pants fall down.

- Joe Sweely

Spy Hunter: When the road splits in two, take the right lane and drive over the edge onto the shoulder. No cars or helicopters will attack you and you'll still score for distance.

- John P. Bintz

Caveman Ugh-lympics: In the clubbing event, you can cause your caveman to yell at your opponent by holding the joystick button (as if you were going to play the "look at the birdie" trick) when a meteor falls in the lower left of the screen. When you yell, you get to see your opponent fly across the screen and off the ledge (talk about bad breath!).

- Mark Fons

Pharoah's Curse: To start on level two, type SPHINX. To start on level three, type RAIDER.

- John Hennessey

Falcon: Use the First Lieutenant option and fly as high as the plane will go. Turn off the engine and point the nose of the plane straight up. You'll fall for a while, but never hit the ground.

- Barclay Henkel

AMIGA

Elite: When prompted to enter a password, type "SARA" (no quotes, followed by a return), and then the correct password. You can then access a screen called "Hacker" by hitting the * on the numeric keypad. You will be able to change your cargo, location, equipment, and even your rating.

- Jan DuJardin

Sinbad: If you're in danger of being killed off, hit the Quit icon in the upper left of the screen. That will take you to the Game Tools screen and clicking on Resume will return you to the same place, but you'll be out of danger.

- Daniel Faline

Operation Wolf: If you're having trouble shooting the bad guys, just hit F1 to pause the game, aim at a baddie while the game is paused, unpause and quickly shoot, then pause again and repeat.

- Jeff Vettrus

If you've discovered hidden "secret tricks" in your favorite game, share them with other INFO readers! We're not interested in strategy tips, but true "side doors" or "back doors" that work to your advantage, or let you do something weird and wonderful. If we print your tip, we'll include your name and send you a world-famous INFOManiac Kit! Don't forget to tell us which machine the tip is for! Send to: INFO Mania, PO Box 2300, Iowa City IA 52244.

... continued

C.A.S.E. SHOW

The Fourth Annual Commodore Showcase, sponsored by The Commodore Association of the South/East, will be held in Nashville, Tennessee the weekend of September 16-17. The C.A.S.E. Show is always a worthwhile extravaganza, with lots of Commodore celebrities, exhibits, and fans. If you can cut yourself loose that weekend, you'll want to attend. It'll be at the Nashville Convention Center. Contact C.A.S.E. at PO Box 2745, Clarksville TN 37042 for details.

ELECTRONICS BOUTIQUE DROPS AMIGA

We got a concerned call the other day from the manager of an Electronics Boutique store. He had just gotten a memo from the EB front office that said, in part, "Due to the relatively small size of the Amiga software market and the low ratio of software to hardware sales we have decided to discontinue the offering of Amiga hardware in our stores... I realize that this may not be a popular decision but it was not made lightly... We want to place more emphasis on the mainstream of the computer market... IBM and Macintosh."

The store manager who contacted INFO said, "I've called stores in California, Georgia, Illinois, Texas, Ohio, and all over, and it's very widespread that none of the employees are pleased about this."

When we asked if he thought this move would hurt sales, he said "I think that this will have a real big impact on sales, even if it's not an Amiga product we're selling. The Amiga unit itself draws people into the store. They see the computer graphics,

they hear the music, and they come in and look." He added, "What we're worried about is that we are 'The Home Computer Store' -- at least that's what all the signs they sent me say -- which includes mainly IBM and Commodore. What they seem to be saying here is that the majority of our customers are going to be IBM and Macintosh, but we carry very little Macintosh [software]."

We asked him if he thought there had been a problem with Commodore. He said "I don't think there's been any kind of a falling out with Commodore, though after this I'm afraid that Commodore may have a falling out with us. This is the second time we've dropped the Amiga."

Executives at Electronics Boutique and Commodore would not comment on the decision. Electronics Boutique had been carrying the A500 for only about three months at the time they decided to pull the computer from their stores.

The store manager who contacted us asked us to "Please ask your readers to write our home office about this." Address all correspondence to: J.J. Firestone, Electronics Boutique, 1345 Enterprise Dr., West Chester PA 19380-9938.

AMIFORUM DALLAS

Dallas had its first AmiFORUM May 6th and 7th. Nearly 1500 people from Texas and environs came to the show, which was judged a great success by Amiga information-starved attendees. Exhibitors, however, seemed disappointed by the small size of the show, both in number of booths (less than 20) and in attendance.

During the show, an informal proposal for standardizing the Modula-2 language was discussed. The standardization of the language's libraries would allow Commodore to officially accept Modula-2 as an Amiga programming language. Standardization would be achieved by releasing "include" files similar to those being supported in the C language. The authors of *M2Sprint* and *M2Amiga* were discussing the possibilities of a standardized Modula-2 library during the show.

M2Sprint is a new Modula-2 compiler from M2S Inc. of Dallas [214-340-5256]. The *M2Sprint* development environment includes a compiler, source-level debugger, text editor, extensive library modules with source, and some hefty documentation, all for \$385.00. However, don't look for this one at your dealer -- it's sold directly by M2S. Contact them about a demo disk.

Digital Animation Productions [617-720-2038] was displaying Transputer boards, accelerator cards, EPROM burners (for making modified Kickstart and other ROMs), and other exotic Amiga hardware devices.

Silver Fox Software [214-349-1681] premiered a new disk magazine for the Amiga called *Canvas*. They say it's the only

Amiga disk magazine devoted entirely to art and animation. The first issue contained ten animations produced using their own in-house software, which Silver Fox says will be released soon as a commercial product.

Other software vendors who attended the show included: Precision Inc., Haitex Resources, Commodore's regional representative, Byte By Byte, Lattice, Lee Software, and Interface Technologies Corporation. Booths were also occupied by three user groups: Scope, Mid-Cities Commodore Club, and Amuse. Three computer retailers rounded out the mix: Amazing Computer Systems, Comp-U-Save, and Metropolitan Computer Products.

The show was fun (featuring, as it did, the occasional flying rubber chicken from the Comp-U-Save booth). Even if it wasn't the largest Amiga show ever presented, we Amiga users (and Amiga hopefuls) in the Dallas area were glad to have had the chance to host an AmiFORUM in our home town.

- David Martin

68040

Motorola has unveiled its new 68040 cpu chip, the latest in the 68000 family of microprocessors. The chip incorporates over 1.2 million transistors in five on-board units: an integer unit, a floating point unit (a built-in 80-bit math co-processor), a memory management unit, and separate data and instruction caches. It is 100% compatible with existing 68000 family software. The initial chip will be a 25 MHz model, with a 33MHz device planned. Hewlett-Packard has already announced it will build workstations incorporating the new chip.

Rumor Mill

DISCLAIMER: The following are among the most entertaining rumors we've heard the past couple of months. They are presented for your entertainment and amusement only. Please do not make any important decisions based on these rumors, as some will prove to be inaccurate or just plain false.

> Commodore has reportedly pumped some "support cash" into two prominent companies that are heavily invested in Amiga development.

> Despite early rumors that ReadySoft's A-MAX Macintosh emulator had to load and run in chip RAM (and thus would only emulate a nearly-useless 128K Mac), we understand that it actually uses the full system RAM, meaning a 1.5 meg Amiga should be able to emulate a 1 meg Mac, more or less.

> Is Commodore ripe for a buy-out? We hear that Hewlett-Packard, in the wake of its recent purchase of Apollo, is looking for a low-end PC company to "round out" its line of workstations and business computers. Sources close to HP tell us that Amigas happen to be very popular among a core group of HP technical people, and the name "Commodore" has come up in planning discussions more than once.

> From the rumblings we hear, the odds are good that Commodore will get an earful from disgruntled developers at the Amiga Developers Conference in Mid-June. The companies we've talked to say they want Com-

modore to start promoting and selling the Amiga seriously, or lock up the doors and go home. Read our report in the Sept/Oct issue to find out what went down in San Francisco.

> The new key word at Commodore may be "Networks". Besides new Novell connectivity (see our Comdex Report), the Educational Division is said to be exploring Amiga/C64/C128 networking for the school market.

> Commodore's 68030 board is done. When you'll see it on the dealers' shelves is anyone's guess.

> Did your old Amiga mouse give up the ghost? If you have your heart set on an Amiga original, the "replacement part" price is \$125 and it comes in a baggie. But we hear if you buy the 1352 PC mouse designed for the Commodore COLT, it comes in a box with an MS/DOS driver disk and manual for just \$100, and it's identical to the Amiga mouse; just plug in and go. (By the way, the C64 1351 mouse is not Amiga compatible.)

> AREXX support will reportedly be coming soon in *Turbo Silver*, *WordPerfect*, and *DigiPaint 3.0*, and Hash Enterprise's animation products.

> Central Coast Software tells us that someone has uploaded a "version 3.0" of their *Quarterback* hard drive backup program to pirate bulletin board systems. As the current version of *Quarterback* is 2.2, they advise

pirates to use caution when stealing this version of their program.

> On the topic of piracy, one big U.S. Amiga software distributor estimates piracy in the Amiga market at 50% -- he speaks of the "Atarization" of the Amiga market. The danger here is not so much whether this distributor is right or wrong, but that he *perceives* things this way.

> MicroIllusions' much-ballyhooed and much-delayed music program *Music-X* will be available by the time you read this. Honest. Would we lie to you?

> INFO PREDICTION: Over the next three years, you'll see UNIX (and XWindows-type user interfaces for it) establish itself as the ipso facto standard computer operating system. UNIX networking compatibility will be the major desirable feature in new PCs, MS/DOS will eventually fade out, and OS/2 will fail to really get off the ground.

> What's waiting in the wings at Steve Job's NeXT computer company? We understand it's a 68040-based full color NeXT computer.

> We hear through the grapevine from one of the programmers working on IBM's OS/2 that IBM management told them to put bugs into OS/2 to assure the need for expensive updates. Seems to us that a system as huge and memory-hungry as OS/2 has plenty of problems already.

Show Report

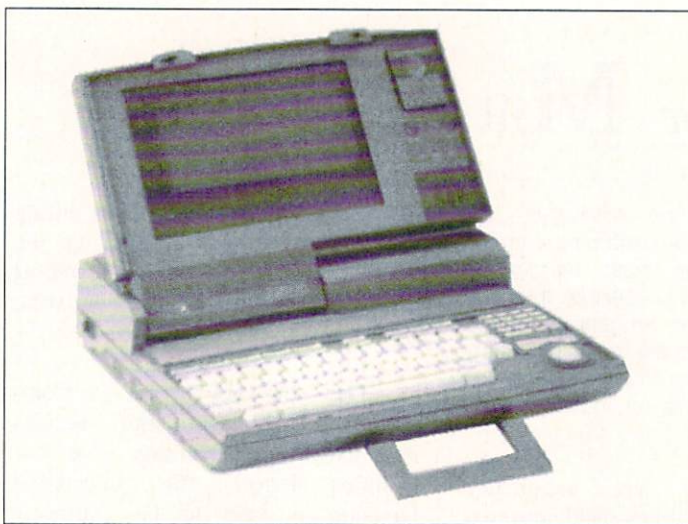
COMDEX CHICAGO

by Benn Dunnington

Spring COMDEX was held in Chicago for the first and last time in April. The Interface Group, organizers of COMDEX, abandoned Atlanta for a better deal in the Windy City, but Atlanta city fathers rallied and moved in with a better offer for next year before the ink was dry on this year's Chicago contract. Such are the politics (and economic impact) of huge computer shows.

The show itself was, as usual, an obscene orgy of IBM excess. Even the Mac vendors were sequestered in an experimental curtained-off "MACDEX" corner. Because of low participation in the MACDEX area (which cost extra not only for exhibitors, but for attendees, too), it's unlikely that the experiment will be repeated. I've heard that exhibitors were so upset at the low attendance in their corner that they eventually took it upon themselves to pull down the curtained walls and let the public in for free.

There were a few Amiga gems among the IBM slagheap. ASDG was present in the Sharp booth, showcasing the *Professional ScanLab* system; in Abacus' booth they were hawking *Professional DataRetrieve* and a bunch of books, including their Amiga series; Cinemaware had mostly-IBM games up and running; Xetec showed their *FastTrack* and *FastTrack Jr.* Amiga hard drives; Moniterm was again demoing their hires Amiga monitor; and Anakin Research was peddling their *Easy!* drawing pad. But the majority of the Amiga activity was in the Commodore booth, of course.



*Atari's
STacy
LCD
laptop*

Commodore themselves had little new to say. They were again showing AMIX, their clone of UNIX, running on an A2500 system. Press releases said it had "reached beta testing stages." We're looking forward to seeing how Commodore's implementation stacks up, since it's beginning to look like UNIX will be the next computing standard. The *Professional Video Adapter* genlock/ digitizer/ framebuffer is also still "under development." Mention was made of a planned broadcast-quality paint program that will work with the PVA, called *PVA Paint*. The A590 20 meg hard drive for the A500 was on display again; it's actually supposed to be available from dealers now. In the Desktop Publishing section of Commodore's booth, Gold Disk's *Professional Page* was churning out nice-looking Amiga promotional sheets on a QMS ColorScript 100 color laser printer. There was one exciting bit of news at the Commodore booth, at least for those who've been waiting for Commodore to commit to a network architecture for the Amiga: an A2000 was hooked up to a Novell network running on a Commodore PC clone host. The Novell client code for the Amiga is a new Commodore license, and is slated

to be available by the end of the year. Also, whoever designed Commodore's slick-looking new silver promotional literature did a fantastic job. It makes Amigas look like real computers.

Elsewhere, Atari took first place in the Vapor Hardware category, with the "introduction" of the *Stacy*, a laptop version of the Atari ST. The model they showed was under glass and looked like it had been put together with a hot glue gun just for the show. The LCD screen had horrible contrast, but it makes little difference, since I'd bet my Commodore *Max Machine* that no one will ever see one on a store shelf anyway. Not satisfied with a single new vapor product, Atari also announced a tiny, hand-held PC clone called the *Portfolio*.

Hewlett-Packard gets my vote for prettiest computer display with their new *XWindow* server software. Windows, icons, and gadgets are colorful and nicely rendered, with 3D shadows that make them look real.

Though there was enough Amiga activity to keep me from falling over comatose, Comdex is just not much of an event for Commodore watchers. The next real flurry of Commodore activity will come with Summer CES and Ami-EXPO, both also in Chicago.

ALL
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Big Blue Reader 128 CP-M	27.97
Bob's Term Pro 64	30.97
Bob's Term Pro 128	36.97
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CSM Drive Align Kit	30.12
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Microleague	36.97
Microleague WWF Wrestling	24.95
★Obliterator	19.97
Paul Whitehead Chess	21.97
Sam's C-64 Prog. Base Ref. Guide	16.97
Star Empire	15.97
Strip Poker	12.97
Poker Data Disk 1	12.97
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★Stunt Car Racer	22.97
Superbase 64	25.97
Superbase 128	25.97
Superbase the Book	13.97
Superscript 64	22.95
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Tab Books C64 Trouble Shoot	14.97
Tab Books C64 Serious Prog	9.97
★Terrotops	19.97
Twen Cities C-128 Compend (Book)	14.95
Vampire's Empire	18.97
Wizardry 2 Tech.	24.97
Wizardry 2	24.97
Zoom	19.97

ACCESSORIES

1541/71 Serial Cable	4.95
1541/71 Power Cable	4.95
C-128 RGB Monitor Cable (Comp.)	5.95
C-64 Color Monitor Cord	4.95
Commodore 64 H.D Power Supply	29.95
Commodore 128 Power Supply	44.95
RS-232 Interface (Supra)	27.95
MW 350 Printer Interface	49.95
Aprospan 64	27.95
Aprospan Extender Cable	15.95
Aprotek 1200 Baud Minimodem C	59.95
Aprotek User Port Extender Cable	15.97
Commodore 1670 Modem (1200 Baud)	69.95</



1541 RAMBOard*

Byte The Copy Protection bullet!

Let's face it - war is hell. And in the Commodore world, one of the ugliest wars of all is being waged by the copy protection industry. They're tough. They're clever. And they're very, very determined. If you've seen some of the current ice out there, you know just how determined they are. Well, we're just as determined. And we've got a way to walk right through the coldest ice out there.

What's our secret? The new RAMBOard, a small card that can easily be installed in 1541 in 5 minutes using just a screwdriver. With this remarkable piece of firmware in place, backup hassles are a thing of the past!

RAMBOard gives you speed - it comes bundled with a fast copier that can archive an unprotected data disk in under 60 seconds. RAMBOard gives you power - working with our dynamic Maverick software, RAMBOard will back up programs that other systems can't even scratch the surface of. Best of all, RAMBOard won't become obsolete - when newer, even tougher protection schemes come along, we'll create new Maverick/RAMBOard parameters to cut right through them. Backed by our famous R&D, you know that we'll do whatever it takes to keep RAMBOard operating behind enemy lines!

Get your RAMBOard today. And the next time some company tries to charge you for an "authorized" backup of a program you've already paid for, remind them that war IS hell - and you know how to raise a little hell of your own.

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In Most Cases, Plugs Right In-NO Soldering Required
*RAMBOard Is An Optional Accessory For Use With Maverick™



THE 1750 CLONE

Thanks For The Memory

Most Commodore users are content to use their computers within the constraints placed on them by a limited amount of RAM. But some people want more. More speed. More power. And that means just one thing - more memory.

Power users have long known that the ideal solution to their memory problems is out there in the form of Commodore's incredible 1750 RAM expansion module. Just plug it in and you've got a whopping 512k of onboard RAM - the same amount of memory found on most IBM computers! This is the memory cartridge that all serious Commodore power users want. There's only one problem.

You can't find them.

That's right. These RAM units are almost impossible to buy. We've always specialized in finding solutions to Commodore related problems - here's what we came up with.

First, we bought brand new Commodore 1764 RAM expansion units, the ones with only 256k of RAM onboard. Next, we had Chip Level Design engineer and produce a custom upgrade that takes a 1764 to a full 512k! That's the same half meg of RAM as a regular 1750! Finally, we tested each and every cartridge, and warranted them to be free from defects.

Now there's nothing to stop you from taking your Commodore 64 or 128 to levels of power and sophistication that the original designers never even dreamed of! If you're using programs like GEOS from Berkeley, the Pocket Series from Digital Solutions; future versions of Maverick from Kracker Jax; Fleet System IV from Professional Software; or the potent PaperClip III from Batteries Included; if you're using ANY of these programs, you won't believe the difference that the extra memory makes!

IMPORTANT NOTES - READ CAREFULLY

*C-64 64c (but NOT C-128 128D) owners MUST buy a heavy-duty power supply to use these units. The power supply is NOT included - it is available from us separately.

*If you ALREADY own a 1764 RAM cartridge, we can upgrade it for you. Your unit MUST be in perfect working order for us to upgrade it. The turnaround time on upgrades is approx. 2 weeks. It will NOT be necessary for you to purchase a new power supply - the one that came with your 1764 will still work fine.

THE 1750 CLONE

ONLY \$199.95

1764 UPGRADE

ONLY \$124.95

THE 1581 TOOLKIT

Is This Utility Healthy? Get A Second Opinion.

Sure, we're going to tell you that The 1581 Toolkit is incredible. But how about a second opinion? "...ten first-rate 1581 utility programs..." "...added an exhaustive 147 page technical treatise on the internal workings of the 1581 and its DOS..." "...all menu driven and quite easy to use, despite the fact that they are all quite powerful and flexible..." "...dozens of little extras..." "...a pleasure to use..." "...significantly outperforms anything released to date..."

The words above are from a review of The 1581 Toolkit in the May/June 1989 issue of INFO Magazine. We received 4 1/2 out of a possible five stars, a very rare achievement for a 1.0 release of a new utility. And as for their expert opinion that The 1581 Toolkit is "...a must for any heavy 1581 user..." we couldn't agree more. Because The Toolkit gives you all this:

- ★ Fast Disk Copier
- ★ Fast File Copier
- ★ Byte Pattern Search
- ★ Partition Creator
- ★ Ultrafast Formatter

- ★ Track and Sector Editor
- ★ Directory Editor
- ★ Error Scanner
- ★ Relocatable Fast Loader
- ★ File Track and Sector Tracer

All 10 of these custom utilities use super fast read/write routines and, where appropriate, allow full access to partitions. We designed The 1581 Toolkit to be the finest set of utilities available for the 1581. But we didn't stop there. Included with The Toolkit is a FREE copy of David Martin's invaluable resource, *The 1581 DOS Reference Guide*. This book holds over 100 pages of information that took more than a year of research and investigation into the inner workings of the 1581 to compile. And we've also added extra utilities like a machine language variable with DriveMon - the perfect companion to *The 1581 DOS Reference Guide*.

You may own a 1581 disk drive, but you're not really using your 1581 if you don't have The 1581 Toolkit. The Toolkit's strength lies in the fact that, unlike some companies, we took the time to master the 1581 before we began. The reason is simple: we don't care if this is the first utility you buy for your 1581 - we just want it to be the last one.

THE 1581 TOOLKIT (ON 3.5" DISK) IS ONLY \$39.95

Includes Your FREE 1581 DOS Reference Guide

The 1581 Toolkit Works On The C-64 Or The C-128/C-128D In The 64 Mode

SYSRES

Your Last Chance To Own A Classic.

All good things must come to an end. That's true for everything, including software. The time has come to say goodbye to an old friend - SYSRES, the finest BASIC enhancement system ever created for the Commodore computer.

Software Support owns the exclusive rights to produce SYSRES. Reluctantly, we've decided to stop producing this incredible program. Why? The simple fact is that most of the serious BASIC programmers out there already own SYSRES, and there aren't enough new BASIC programmers entering the arena to warrant the expense of continued production of SYSRES.

If you're one of the few serious BASIC programmers out there who isn't yet using SYSRES, maybe you should take a look at some of these features:

- Easy code entry with features like auto line numbering, enhanced key repeat, and fast up and down scrolling of program listings!
- Macros: any shifted key may be set to represent any BASIC or SYSRES keyword. All files may be listed, loaded, run, copied, or scratched by entering a two character command in front of the file name listed in the directory!
- Find/Change any variable phrase or keyword used anywhere in your program. Over 700 search variations are available including pattern matching with wild cards and limitation symbols. Now you can automatically remove spaces and REMS to streamline run-time versions of your programs!

List BASIC programs and relative and sequential files without loading them into memory first!

- Edit text files and assembler source code without having to leave BASIC!
- Do a partial renumber. Move a subroutine to a more logical starting place while preserving all other line numbers and updating all line references!
- Debug with a variable speed TRACE. Display the current and the five previous operations. Display variables as they change or are defined; send the TRACE to the printer!

We haven't even scratched the surface of SYSRES. With features like screen print, multiple drive support, full printer support, and program merge capabilities, it's easy to see why SYSRES is the most comprehensive BASIC programmers' aid package ever produced. And just as comprehensive is the professional documentation: over 110 pages, bound in an attractive three ring binder. You'll also be pleased to know that SYSRES is UNProtected!

So there you have it. If you use BASIC at all, this is the enhancement system that you need. And this is absolutely your last chance to own this classic. As a going away present, we've even cut the price in half! Now there's no reason for you to limp by on plain vanilla BASIC any more. Get SYSRES today - and get involved with some serious programming power!

SYSRES/NOW ONLY \$19.95

While Limited Supplies Last!

ATTENTION C-128 OWNERS

Solderless 64K Video RAM Upgrade

Now that Commodore has released the C-128D with 64K of video RAM, we should be seeing 128 programs address this fantastic new feature soon.

BASIC 8 already has the capability of using all 64K of video RAM. If you own the C-128 in stock condition, you own all 64K of video RAM that Commodore felt was necessary. Using BASIC 8 format and the full 64K of video RAM provides you with the ability to scroll through video memory as well as enhanced color resolution.

Up until now, to upgrade the C-128 to 64K of video RAM you would have to first search out the components, then find a competent repair outlet to desolder and install the parts. What a hassle!

SOLUTION - We have developed a module that simply plugs in to the mother board of your C-128. No splattered solder - No heat damage - No hassle.

This package is available in two different forms. Model A has all parts necessary to complete your upgrade, and Model B is identical except that you supply the RAMs. Again, no soldering is necessary. If you have access to low cost RAMs, we suggest Model B.

Both models include easy to follow installation instructions, a test program to verify proper installation, and the plug in Video RAM Upgrade.

RAM UPGRADE

only **\$49.95**



COMMODORE HEAVY-DUTY

POWER SUPPLIES

WATTS The Matter - Can't Get ample power?

Sorry about that. Actually, it's no laughing matter. Our technicians tell us that the majority of Commodore computer problems can be traced back to an inadequate power supply. When the power supply fails, it can (and often does) cause additional damage to the computer itself - and a computer meltdown is no joke.

This doesn't have to happen to you. We are now selling a heavy-duty power supply that will greatly diminish your fear of a power supply failure. These are NOT aftermarket units - they are made by Commodore, and are ideal for use with RAM expanders. They will provide you with a more stable, dependable source of power. This unit will work on ALL C-64's and 64c' on the market.

If your system is important to you, take the extra step to safeguard your investment by getting a Commodore Heavy-Duty Power Supply today. Power you can depend on - with no unexpected shocks.

COMMODORE HEAVY-DUTY POWER SUPPLY

C-64 Version - Only \$29.95

C-128 Version - Only \$44.95

**SOFTWARE
Support
INTERNATIONAL**

PLEASE READ BEFORE ORDERING: We accept money orders, certified checks, VISA, M.C. and Discover. Previous Software Support customers may use C.O.D. and personal checks. Orders shipped to U.S.A. (48 states), F.P.O., A.P.O., or possessions, please add \$3.50 per order for S & H. U.S. shipping is by UPS ground in most cases. FAST 2nd DAY AIR available: add \$1.00 per pound additional (U.S. 48 states only). Alaska or Hawaii (all orders shipped 2nd day air): please add \$7.50 per order for S & H. C.O.D. available to U.S. customers only (50 states): add \$2.75 along with your S & H charges per order. Canadian customers may calculate the S & H charges by including \$4.00 (minimum charge) for the first two pieces of SOFTWARE and \$1.00 for each additional piece per shipment. All monies must be submitted in U.S. funds. Canadians must call or write for hardware shipping charges. Foreign customers must call or write for shipping charges. Defective items are replaced at no charge if sent postpaid. All in stock orders are processed within 24 hours. U.S. SOFTWARE orders over \$100 will be shipped 2nd Day Air at our regular \$3.50 S & H charge (48 states only). Washington residents please add 7.6% additional for Sales Tax. All prices subject to change. All sales are final unless authorized by management.

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New Products & Reviews

★★★★
OUTSTANDING

★★★★
VERY GOOD

★★★
SATISFACTORY

★★
POOR

★
DREK

8-BIT SOFTWARE

WORDPROCESSOR WARS

The appearance of a major redo of an 8-bit productivity title is rare enough these days that it warrants appearance here in New Products rather than the Update section. The new version of *Timeworks' Word Writer* wordprocessor is going head to head with *GEOwrite*, offering, as it does, support for GEOS fonts as well as providing its own collection. *Word Writer 4* also has some graphics support. The dictionary has 85,000 words and the thesaurus 60,000. Retail is \$39.95 (*Word Writer 3* owners can upgrade for \$19.90) and a supplementary font disk is available for \$9.95. 444 Lake Cook Rd., Deerfield, IL 60015. 312-948-9200.

BIBLE QUEST

SOGWAP, best known for their file transfer utilities, has released *Bible Search*. The program operates in both 64 and 128 modes and contains the complete King James Version New Testament compressed onto one floppy disk, while a concordance is on a second disk. It boasts very fast search routines and printer support. 115 Belmont Rd., Decatur, IN 46733. 219-724-3900.

MONEY MANAGING

AFFS stands for *Automatic Family Financial System* and is a new C128-specific application for tracking your budget. Modular in design, the program operates on a month by month basis and will also generate a year-end report which pulls out all

pertinent tax information. There are several other report functions as well, one of which is a comparison of actual versus projected budget items which will let you know how closely you're sticking to your plans. \$29.95 from *Peter P. Saltarelli*, 3832 Cross Bend Rd., Plano, TX 75023. 214-964-7222.

FORMATTING

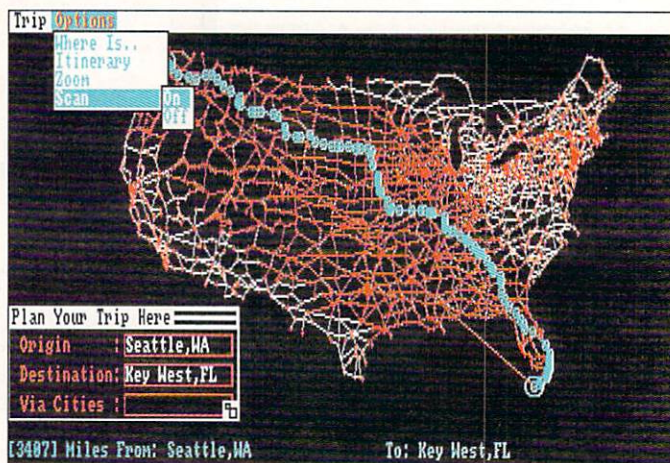
Powersoft sent along a copy of their *Format Executive* file transfer utility for the C128 and 1571/1581. It runs under CP/M and the range of formats it supports is impressive, including MS/DOS, CP/M in popular flavors, Amiga, Atari ST, and, with an external Apple drive, Mac. Retail is \$59.95. PO Box 7333, Bradenton, FL 34210.

CRUSTACEAN WARE

Grown from a shareware title, *Crab's Terminal* is a C128 telecommunications package from Canadian company *EveryWare*. It offers support for ANSI and VT100 terminal emulations, and Punter, Xmodem, Xmodem 1K, and Ymodem Batch file transfer protocols. PO Box 381, Place du Parc, Montreal, PQ H2W 2N9 Canada.

DON'T WORRY - BE APPY

Appyware has developed a cartridge/disk product that assists in the checking and alignment of 1541 disk drives. The *Maintenance* disk, which checks disk performance, is available for \$19.95, while the *Diagnostic/Alignment* cartridge and disk set goes for \$79.95 and allows you to perform complete drive alignments. 6009 State Route 225, Ravenna, OH 44288. 216-358-2215.



Main map and routing screen from Trip

AMIGA SOFTWARE

ROUTING REQUEST

Trip just suddenly appeared at the INFO Intergalactic Headquarters one day, and Mark and I promptly wasted the rest of the day (and then some) with it. Routing is one of the most difficult and complex of all tasks for any computer, and *Trip* does an admirable job of seeking out the most efficient path between two points, which can be just about anywhere in the US and Eastern urban Canada. You tell it where you want to start and where you want to wind up, and *Trip* will then plot a route via interstates and major US highways. It gives you an itinerary complete with directions, estimated times, and mileage distances both actual and as the crow flies. It's absolutely fascinating to watch the thing try various routes on the onscreen map. The list of locations and highways it knows is impressive, and the company tells us that future revisions will be even more detailed. Price is \$49.95 with

printed docs and a copy of the *Road & Travel Guide*, \$39.95 without. (Don't be a cheapskate - we've seen the book and it's worth the extra bucks.) *Sky Shepard Software*, PO Box 49, St. Marys, IA 50241. 515-280-7208.

DECWORKING

Syndesis is bringing the Amiga into the arena of mainframes and XWindows. Working through Dale Luck's *X11* Amiga XWindow implementation, *TSSnet* (\$250.00) provides access to DECnet networks. The initial release will provide asynchronous DECnet communications via what they call a Network Control Program. A programming interface on the Amiga device level is also provided, along with Network Virtual Terminal support. Wake up and smell the microchips, folks: this is where the future lies. No price has been announced yet. Speaking of *Syndesis*, they have also released two new *Interchange* modules, one for *Turbo Silver 3.0* and the other for *Professional Draw*. 20 West St., Wilmington, MA 01887. 508-657-5585.

New Products & Reviews



MASTERPIECE

Scorpion, 19 Harbor Drive
Hopatcong NJ 07849, 201-663-0202

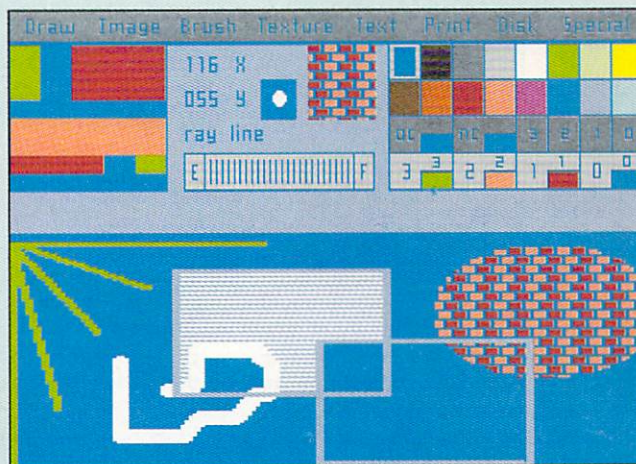
\$29.95

As we said last issue, there's not much around in the way of Commodore 64 paint programs any more, except for a few "oldies but goodies". The attrition is especially bad in the category of multicolor paint programs, where not one of the best titles of the past remains. Fortunately, though we Yanks have almost completely abandoned software development for the C64, the British remain active in the 8-bit market. Even more fortunately, an occasional U.S. company chooses to import a superlative title from the U.K. to fill a gap in the U.S. market. Scorpion has done just that in choosing to bring us *Masterpiece*.

Masterpiece is an extremely nice little paint program that operates in both of the C64's native graphics modes, hi-res and multicolor. You can easily switch between the two modes using pull-down menus. Joystick-operated pull-down menus are used for most of the user options. These are augmented by a half-screen-size control panel which contains the color palette, a magnification window, and brush and pattern indicators. (Editable brushes and patterns would have been a nice addition to this program, but the built-in designs are fine.) When you are painting, the panel thoughtfully jumps out of your way to occupy the half of the screen you are not currently drawing on. You can also make it disappear completely with a single keypress if you wish to draw with the entire screen visible.

This program presents you with a basketful of options. Unfortunately, the "comprehensive manual" described on the box turns out to be a rather badly written booklet that does a poor job of describing how to use these many options. Fortunately, the WIMP (Windows, Icons, Mouse, Pointer) environment makes it fairly easy going, though you will have to experiment to get the hang of many of the more involved features. The booklet is lousy as a reference, but if you perform the tutorials you'll get a feel for many of *Masterpiece*'s functions.

Drawing tools include filled and empty ellipses and boxes, lines and rays, freehand drawing, flood fills, spray paint, and more, using any of sixteen brushes and sixteen built-in patterns. Response is quick, and switching tools is a relatively painless process.



The most fun, however, is drawing with grabbed brushes. As with much more advanced paint programs for the Amiga, you can distort and twist brushes for interesting three-dimensional effects. There is also a mode which allows you to grab and define graphics as fonts and assign them to keys on the keyboard.

Printer support is limited to the Commodore MPS801 and Epson FX printers and their many clones, and I was unable to test it on my current setup.

Masterpiece employs yet another new disk file format, so pictures will not be compatible with any other drawing program on earth. With seven years of C64 history behind us, you'd think that software developers would come to recognize that there are certain established formats prevalent in the industry, and would choose to support them. *Doodle* and *Koala* format art files are available by the thousands, and it's a shame to not be able to access them just because the designers of *Masterpiece* decided to go their own way. We'll have to wait for some PD programmer to come up with a file translator before *Masterpiece* artists can access this vast library of art.

Because the program comes from Europe where cassette tape is still much in use, you are given the option to save and load from tape.

Do I like this program? Yes, very much. Though I don't think it as powerful or as easy to use as either *Advanced OCP Art Studio* or *Artist 64*, neither of those is available in the U.S. market, so the point is moot. *Masterpiece* is the most powerful multicolor drawing program now available, and should prove a valuable addition to your artist's toolbox.

- Mark R. Brown

continued on page 62 . . .

Magazine Index

INFO's Guide to the Best From the Rest

Also:

AmigaUser

The official word from AmigaUser is that they are now quarterly. The next issue will be the Fall 1989 edition, scheduled to hit the stands in August.

AMIGA
plus

The slick, pretty June/July issue covers 3D and animation. (Just for your reference, Antic, the publisher of Amiga Plus, also publishes *Zoetrope*, one of the animation packages covered in the piece. They also publish games under the Terific label.) My overall impression of the magazine is that Amiga Plus is walking on eggs, trying much too hard not to offend any potential advertisers. That might make for good ad sales, but doesn't make for good reviews.

Amiga
FOR THE
Transactor

I was actually able to understand about half the articles in the April TransAmi. The others are technically far beyond the realm of my expertise. (It's not easy admitting that, you know.) The articles I understood: Commodore's Andy Finkel looks at scripts under 1.3, Derek Grime examines video production, and Larry Phillips makes an impassioned plea for standards. Then I came to Eric Giguere's "Using the Bison/Yacc Parser". I read it twice and still have only the foggiest notion of what it was all about.

AMIGA
WORLD

The May issue's cover feature is on music and goes into considerable detail about just how music is made on the Amiga, what products are available, and what they can be used for. In the same issue, Lou Wallace tours the telecommunications networks. The June issue delves into animation and the packages used to achieve it. It includes a 'how-to' on creating stop-motion animations

(Gumby and Godzilla are the examples used). Bob Ryan's long-running "BASIC by the Numbers" column comes to an end in the same issue - he's moved on, and we hear his name will soon be appearing on the masthead of *Byte*.

Commodore
MAGAZINE

Anyone with an interest in Core Wars will want to take a look at the report on the annual tournament in the May issue. Core Wars is an interesting pastime for programmer types who get involved in things like the Mandelbrot set and Life. We've never seen a version for Commodore computers, though we hear King Software has one in the works for the Amiga. In the same issue, there's another of Commodore's profiles of software houses, with Taito the focus this time. A piece on upcoming game releases mentions several titles even we hadn't heard about.

COMPUTE!

Orson Scott Card takes up the issue of computer game violence in the May edition. After harping on the same theme in several of my reviews in the last INFO, it's gratifying to know that there are other people in the industry who are concerned about the subject. In the same issue, Arlan Levitan offers suggestions on how to give the appearance of being a wizard programmer and garner all the adulation you want without actually having to write a single line of code. Among other things, it involves Hawaiian shirts, pocket protectors, a junkfood diet, and RPN Hewlett-Packard calculators like the one on Mark's desk. It's an exercise in hilarity, as usual.

COMPUTE!'s
GAZETTE

Scraping the bottom of the 8-bit barrel isn't turning up many morsels lately. About the only thing of moderate interest in the June issue is Rhett Anderson's Horizons column, where he speculates on the demise of the C128 while hedg-

ing on a prediction of a new super-C64. He's betting against it, but would like the credit for the prognostication if such a machine appears. If you haven't been getting enough sleep lately, check out the type-ins: a macro editor and Yet Another Speedscript Enhancement will surely lull you into the arms of Morpheus.

COMPUTER
GAMING WORLD

The April issue features sports simulations, though enough flight simulators are examined to make another feature. If you have any lingering doubts about the deleterious effects of piracy, read the letter from Gilman Louie, CEO of Sphere (Spectrum Holobyte) on the subject. He goes into detail on the harm it has done to the development of ST software in particular.

CONSUMER
ELECTRONICS

While this monthly is a trade publication and not generally available, it does contain, in the April issue, the Quote of the BiMonth. In an article on the Atari/Federated debacle, a former Atari employee describes Jack Tramiel's style as "management by intimidation, screaming, and blackmail". It's nice to know some things remain constant.

INFO
WORLD

The feature of the April 3 issue is on "The New Power of Presentation Graphics". The word 'Amiga' is never mentioned. We just had to pass this little goody along: the April 24 Industry section now sports a little box titled "Apple's Court Calendar." In view of how fond Apple has become of lawsuits, the chart is a handy way to keep up to date on what the lawyer-weasels are up to. In the same issue Jerry Pournelle expounds on his latest interest, the global economy and trade protectionism. It is, believe it or not, insightful and well-said. We suspect he's hired a ghost writer.

Magazine Index

JOURNAL OF COMPUTER GAME DESIGN

Chris Crawford, publisher of JCGD and author of *Balance of Power*, has never been one to shy away from controversy. The pieces he publishes are generally illuminating, and often have much the same effect as throwing a wounded peccary into a river full of piranhas. A case in point is an article in the April issue by Bill Hopkins on the unrealized potential for using computers as story-tellers, with which Crawford takes strong exception. At least he has the gumption to print it in the first place. If you're considering becoming a professional game designer, there's also advice in the same issue on contracts and how to go about breaking into the business. [5251 Sierra Rd., San Jose, CA 95132]

California's Computer Magazine MICROTIMES

MicroTimes is a free monthly tabloid published for the California Bay Area (that includes Silicon Valley). It is, as expected, mostly PC and Mac oriented, but does include an Amiga column by Matthew Leeds. Industry pundit John Dvorak also has a regular column that's always entertaining. In the March 20 issue, he enumerates the evolutionary rise and cultural contributions of the Nerd. It's utter hilarity wrapped around a kernel of truth.

ROBO NEWS CITY

RCN has picked up some new backing and distribution, along with a new logo and look. The January issue (which arrived in our offices at the end of March) has advice from the ever-perceptive Matthew Leeds on databases, along with reviews of *Superbase Professional* and *Microfiche Filer Plus*. There's also an interesting, if rather technical, article on types of fractals other than the usual Mandelbrot set. Robert Blackwell reports in his Bulletin Board column that the first of the new IDTV (Improved Definition Television) sets should be on the market by the end of the year. They provide a non-

interlaced TV display and are a sort of intermediate step on the way to HDTV (High Definition TV).

RUN

The May issue is down to a thin 76 pages on poor-quality paper. The cover feature is on getting your 64 or 128 serviced. It offers some good advice from Loren Lovhaug on what to expect when your machine needs repairs, along with some suggestions on how to avoid problems in the first place. The type-ins are lame rehashes of things we've seen far too many times already.

UPTIME

It's been a while since we've seen an issue of this 8-bit disk magazine. Vol. 2, #7 explains the delay as a difficult transition between editors and promises full subscription fulfillment. In the issue, Dan Gutman, while avoiding predictions himself, takes a look at prognostications from the past and how far off the mark they were. (Like "airphibious" automobiles that would turn into airplanes and fly.) There's also a nifty *FishBowl* that turns your monitor into an aquarium. Vol. 2, #8 arrived in the same envelope as #7. Cleve Blakemore, formerly of *Ahoy!*, turns up on it with *Galactic Cab Co.*, another in his long string of arcade games. This one is C128 specific. In keeping with his longstanding tradition of liking everything he reviews, Ervin Bobo examines *Scruples*, starting off the review by admitting he's never played the boardgame version.

AmigoTimes

Issue 1.5, like previous issues, is very pretty to look at and seems to have something for everyone. There are lots of color pictures and, admirably, the whole works is, like INFO, desktop published on the Amiga. Unfortunately, AT's good looks are often counterbalanced by sloppy editing, old news, and uncritical reviews. The focus of 1.5 is desktop video, and includes a comprehensive look at genlocks, complete with good

explanations of the terms used. There's also an interesting how-to on getting MicroWay's *FlickerFixer* to work on the A1000 and A500. The disk included with 1.5 is mostly antique PD stuff. Among other things, there are three games which can only be described as drek (the '15' slider puzzle, Towers of Hanoi, and Concentration), a pointer hack called COOO that I never could get to work, and a font display program that invariably brought a visit from the guru on my A2000. Unfortunately, while the look of Amigo Times is great, the content sometimes disappointing.

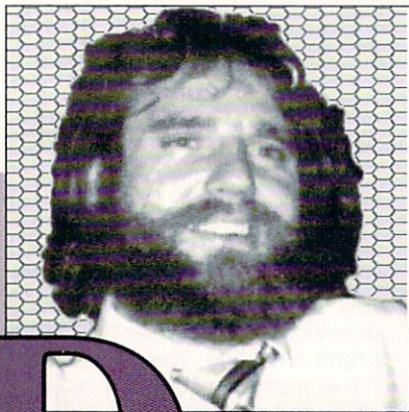


You haven't seen an issue of AMNews in a while, and it will probably come as no surprise when we tell you that the principals of AMNews are involved in litigation with one another. If and when the whole thing will be straightened out, and whether or not you'll ever see another issue of AMNews, is anyone's guess. If they manage to pull through and make it back onto the newsstands, we'll let you know.

JUMPDISK

I'm starting to think Jumpdisk is out to destroy INFO by consuming all the staff's time. Each of the last several issues has had some nifty little thing that's far too much fun to play with. In the May issue, it's a video poker game that I've wasted whole days with. It doesn't have many bells and whistles, but plays swiftly and obsessively (and it's a whole lot better than most of the commercial video poker games on the market). The same disk also contains a very interesting graphic file encryption program. It presents the user with a blank screen and some drawing and text tools. The finished screen can then be completely scrambled. It's fascinating to watch the thing work while it reduces your images and words to pixel dust. It will, of course, restore the screen as well, and it's equally fun to watch.

- Tom Malcom



At INFO, we believe in the Freedom of the Press. We also believe in the responsibilities of the press. Therefore, the views expressed in this interview are the unexpurgated opinions of the interviewee, and do not necessarily reflect those of INFO Publications.

KEEPING THE FAITH

an Interview With Dale Luck
by Mindy Skelton

Dale Luck is one of the few members of the original Amiga design team still working with Commodore. He also holds a fair number of shares of Commodore stock, and has definite ideas about how the company should be run. His background includes technical college, a three month stint with IBM, and time spent designing graphic workstations for Hewlett-Packard. Dale currently lives in Silicon Valley where he develops and produces such products as the *BOING Mouse* and *XWindows*.

INFO: Before we get into the meaty stuff, tell us about your keen "BOING" jacket and your hand-built portable Amiga.

LUCK: The jacket is a top-of-the-line nylon flight jacket with the 'BOING' ball and "Amiga" stitched on the back. The front can be personalized with the owner's name. The jackets are shiny and are really high quality. They're great to wear at shows, and the ball glows in the dark if you're in a disco. I sell them on the side.

INFO: How about the portable Amiga?

LUCK: It's a 'luggable' based on the SX64. It's a design we worked on when I was consulting at Commodore. It's one of only two or three prototypes made. The motherboard is a new layout of the A500 motherboard that fits exactly in an SX64 case. It has one meg of memory, and I've been trying to get a hard disk controller for it, possibly a 68020 board to plug into it, and a 5 or 6 inch color LCD display. It's a really nice little unit. For some reason Commodore wasn't interested in a

portable Amiga, and the project didn't get any further than the prototypes.

INFO: Is there any chance that you would ever produce them yourself?

LUCK: I'd have to buy the chips from Commodore, so they would make money one way or another. Production would involve a lot of up-front money, but after *XWindows* and our 3-button optical *BOING Mouse* take off, I could have more venture capital to put into more Amiga related products, so who knows. I'd love to have a portable Amiga to drag around with me.

INFO: Okay, first a little history. How did you become a part of the Amiga design team?

LUCK: I attended Michigan Technological University, and after graduating I went to work for Hewlett-Packard in California developing graphics workstations. About three years into this I started getting interested in UNIX and ported UNIX to the color graphics system I was working on. In 1983 I was presented with the opportunity to work with Amiga Corporation on an

interesting PC with many similarities to the HP workstation. The product seemed good, and even with a few difficulties on my first interview (I was at an HP beer blast and missed my first interview) the Amiga people and I seemed to click. Within a couple of days I had made my decision, and within a couple of weeks I was in charge of the graphics software at Amiga.

INFO: Who were the "dancing fools"?

LUCK: That would be R.J. Mical and me. Back in the early days (1983) we were involved in writing a tremendous amount of software and were relying on a couple of old Sage 68000 based Unix-like machines we called "Crime" and "Punishment". When we had a couple of people working on them they really slowed down. So in order to stay awake and keep our blood flowing RJ and I would crank up the music and dance while we were waiting. Then after we got a little cardio-vascular exercise we would go back to work until it was time to dance again.

We had all this high speed CMOS stuff emulating the chips. They were extremely static sensitive so whenever you touched the hardware without grounding yourself you ran a good chance of blowing out some ICs. RJ and I put down a grounding mat and tried to encourage everyone to go barefoot so they would be naturally grounded.

The room we worked in was called 'The Cave' because there were no windows in it. It wasn't as bad as it sounds; we did get to go outside once in a while. Especially when there was an earthquake and people ran screaming outside.

INFO: So we have a bunch of barefoot people boogeying the night away in a cave, plagued by earthquakes and still managing to produce the Amiga.

LUCK: It was a very cozy environment, usually. We had VT100 monitors hooked to the Sages that we used to edit and compile the programs, then we downloaded to a Lorraine [*a prototype Amiga*] which had a 68000 processor, 128K of memory and emulators for the graphic chips. We had color monitors strapped to the tops of our terminals and the RGB cable run in a ring around the room, so we would queue up and wait and everybody got to see what you were doing.

It was a memorable place. I don't know if I will ever work with a more enthusiastic, incredible group of people again. Everyone was on a mission from God.

INFO: You're the only member of the original design team still with Commodore aren't you?

LUCK: That's not quite true. Bob (Kodiak) Burns is still there contracting. I think I would really consider him part of the first tier, although when Commodore laid people off in 1986 he did get axed. That layoff put us down to four or five people. Then Commodore laid everyone off in 1987 and I became a part-time contractor with some open hours, working only on an absolutely as-needed basis. I think I may still be helping them in the future on Workbench upgrades. About the time I got laid off, I started working on *XWindows* in my spare time. As my involvement with *XWindows* increased, my involvement with Commodore decreased.

INFO: Do you think development would have gone differently if Commodore had not dumped the entire development team?

LUCK: I think things would have been very different. The split between the East and West Coast teams, after axing the entire West Coast team except for Bart Whitebook and me, was very difficult. It resulted in work stopping on

Intuition for eight or nine months, and a tremendous loss of momentum. Fortunately we were eventually able to get some of the people back to finish the product.

In all honesty, Commodore didn't really want to fire the entire development staff, but they did want us all to move to Pennsylvania, and that was just not acceptable to us. California has got a lot of things that West Chester, Pennsylvania doesn't have. There is a tremendous amount of synergy in Silicon Valley. There are so many established and startup companies that it is a hotbed of activity. The latest in hardware, software, ICs, and just personal networking is right down the street. There was a core of four or five developers that Commodore was interested in saving and none of us would move. We shut down to a small two-man consulting company and tried to hold things together. Commodore would only bring people back as consultants, never as employees. They always ran the operation out here as a short-term proposition without making any commitments.

INFO: I understand you've made your opinions known at Commodore stockholder meetings.

LUCK: After reading the stockholder's report I was concerned about what I saw and how the company was being run. The stockholder's meeting is about the only place a typical stockholder has to bring these things up, so I did. They seemed a bit taken aback over things I thought were legitimate questions. For example, the IRS was auditing them for failure to pay all their taxes for the last several years. I don't know if it was evasion or a mistake, but I'm a stockholder in other companies and I don't see them being under investigation or see the government levying millions of dollars in back taxes and penalties. I also questioned the fact that there is no one with a significant technical background on the board of directors. Other companies have someone who has vision or understanding of the basic technologies and can help the board.

“Even in the high level management of Commodore there really isn't anyone who grasps the technology.”

Even in the high level management of Commodore there really isn't anyone who grasps the technology.

Commodore's a funny company. It's like they're pretending to be a computer company. When I compare them to any of the major computer manufacturers, there are big differences. The other companies have product lines and product families. They have goals, use long range planning, and have a greater corporate understanding of their goals. They have good management that understands what they're trying to do. Commodore always seems to be trying to catch up. They cut their bureaucracy but they have managers who get bogged down in details rather than delegating. This means they can't deal with that many products at once.

INFO: Is there any truth to the rumor that you want to be chairman of the board? How would you run things?

LUCK: I think I'd make a good chairman of the board. I'd set strategic planning goals, look at the actual Amiga line, select the markets we want to dominate, and start gearing actual engineering. Commodore has this wonderful MOS Technology chip facility that they don't use optimally. I'd get the facilities ready to go; do the homework right; do it like a computer company. I'd provide user support and get the dealer network up and running. I'd gear marketing toward making people realize that Commodore is a workstation company.



"Commodore's a funny company. It's like they're pretending to be a computer company."

I would probably even change the name of the company in order to help change people's perception of the Amiga. Commodore is seen as a toy company both in the US and Europe. Commodore could spin off a new division with a name like "Something Technologies", give it its own marketing, development, and engineering departments, and develop synergy between the rest of the Commodore line; something like Panasonic and Technics. The advances they make, the knowledge they get, the tools they develop, the ICs they produce could filter into the rest of the company and be used to upgrade the consumer line. With the R&D investment made up front, Commodore could upgrade its whole line of products, but you have to have someone doing innovation to stay ahead of the game.

Commodore also has quality control problems which in a proper computer company would be fixed at the engineering level and not patched at the manufacturing level. They don't bite the bullet when they should. They're more into covering their ass than in kicking ass.

I think the people in software are trying to do it right. They do some long range planning. That's one of the reasons that Workbench 1.4 is taking so long. They wanted to bring out new features of the chips and introduce features so programs need not be so concerned about which bits to set in the hardware to bring up certain displays.

This requires an extra level of generalization in the Intuition software. I've got high hopes for 1.4. The Workbench itself is getting a facelift and the code is being changed to work with the new blitter chips. Several bugs are being fixed. There'll be all kinds of goodies.

Commodore seems to have learned a few lessons in hardware, but they did make some real mistakes in the past and they continue to have problems. I'm aiming at the workstation market with *XWindows* and many of the machines I'll be in competition with have higher standard screen resolutions than the Amiga. I've been waiting for two years for the A2024 monitor, which has a 1008x800 display. The things that slow up delivery often should have been dealt with at a design or engineering level long before they ever got to manufacturing.

INFO: Could you tell us more about *XWindows*?

LUCK: *XWindows* is an industry standard graphics system. It is primarily a protocol that allows a graphics program like *DPaint* to talk to the graphics library. The arguments are set up so the call can happen over a network. Any Amiga on the network can open windows on any other. I could actually be sitting at one machine and mouse around on the program on another machine. This enables lower cost Amigas to take advantage of a super fast Amiga with a hard drive. Since the system is an industry standard, an Amiga could also interface with and run programs on a VAX, Sun, Cray, or any computer that supports *XWindows*. With a system like the desktop publishing system by Frame Technologies which runs on Suns or HP, I can do desktop publishing on the Amiga without running the program on the Amiga.

INFO: Wasn't Commodore interested in *XWindows*?

LUCK: Not really. They didn't see the potential. They're a very non-innovative company and don't take a lot of risks.

They like to think of themselves as a high-end company, but they don't know how to get into that market. Commodore is like a very big small company. They have little product differentiation and don't seem to want to diversify. Their whole Amiga line is based on two products; the A500 and the A2000, whose only difference is a couple of boards. There is no scale of products like there is with the Macintosh. Commodore seems to want to be a high volume producer who would rather make the blades than the razors. Another reason they were not interested is that *XWindows* requires a network, and Commodore has no network strategy. That's one of the things that's kept them out of the business market. But I thought *XWindows* was something that would be important. With the Amiga's capabilities, *XWindows* could make Amiga the lowest-cost networking system available. I'm still fine tuning *XWindows*. Conversion to color (currently we only support a monochrome display) and supplying libraries so people can write their own programs are the two major things I plan to finish later this year. Our benchmark tests show that we are doing very well, though. Some of the text and graphics routines equal or outperform the Sun 3/50.

INFO: Any final thoughts?

LUCK: I'm just trying to keep the faith. The Amiga is still my baby, and I still think it's a dynamite machine. Things just didn't work out as well as they should have. but the Amiga just keeps surviving.

If you'd like to order some of the products mentioned, the *BOING Jacket* costs \$115.00 (please indicate size and a name if you want the jacket personalized), *XWindows* is \$395.00, and \$475.00 when bundled with the *BOING Mouse*, from:

BOING!
1881 Ellwell Drive
Milpitas, CA 95035,
408-262-1469

READER MAIL



... continued from page 9

PLink Mail From: GENEJOCKEY

I wish that Commodore would make a mid-priced Amiga by deleting the IBM slots from the A2000 design. Such a machine could still use internal genlocks, the *FlickerFixer*, CPU cards, etc. Commodore could even keep a single slot for the Bridgeboard if necessary, but eliminate the IBM expansion bus. Two or three Zorro slots would be just fine for two most important things we need to add to our Amigas: hard drives and memory. And it would not suffer from the complaint that I hear the most when I try to convince people that the Amiga is a good computer: "For just a little more, I can buy a Mac." I hope you print this and I hope someone at Commodore reads it.

Yours is not the first letter we've had to this effect. It would seem a lot of potential Amiga owners are willing to let IBM/PC compatibility go hang in exchange for a cheaper, expandable Amiga. In fact, many assert that Commodore needs a whole line of Amiga computers to meet different needs.

- Mark & Benn

U.S. Mail From: Rich Kevin O'Brien

INFO Magazine keeps getting better and better. I read the left-handed compliment in *Personal Publishing* last Fall, so I compared INFO to the latest issue of *Personal Publishing*. PP looks like PP. INFO wins. And have you seen the May issue of *MacWorld*? They're all excited because they finally figured out that they could use personal computers and desktop publishing software to produce *MacWorld*. Imagine that.

We are always willing to welcome other magazines, even Macintosh mags, into the desktop publishing fold. INFO blazed the desktop publishing trail five years ago with a lowly Commodore 64, and we've been tramping up and down making improvements ever since. Now that desktop publishing is a four-lane highway, we expect we'll have a lot more company. Thanks for providing this issue's obligatory "INFO Is Great!" letter.

- Mark & Benn



REAL WORLD



BOOKS

► I just finished reading Stephen Hawking's much-acclaimed book *A Brief History of Time*, and I've got to wonder what all the hubbub is about. The first half is wasted on a re-telling of the history of cosmology; the last half is a too-light treatment of some heavy cosmological concepts, without enough detail to flesh them out and make them seem real.

► Richard Dawkin's *The Blind Watchmaker* is also receiving much popular acclaim for its defense of Darwinian evolution, but I found many of the author's arguments half-baked. That a random series of transformations in a collection of lines occasionally results in esthetically pleasing graphic patterns does not seem to me a valid argument that a series of random genetic changes could give rise to a new species. Scientific evidence is one thing, but ill-conceived 'conceptual proofs' don't advance the cause of science. They merely muddy the waters.

► *Chaos: Making a New Science* by James Gleick is a fantastic book full of interesting concepts and challenging ideas associated with the emerging science of chaos. Gleick presents a great deal fascinating information on Mandelbrot and Julia sets, fractal geometry, the chaotic nature of weather, and other natural and mathematical phenomena.

FUTURE TECHNOLOGY

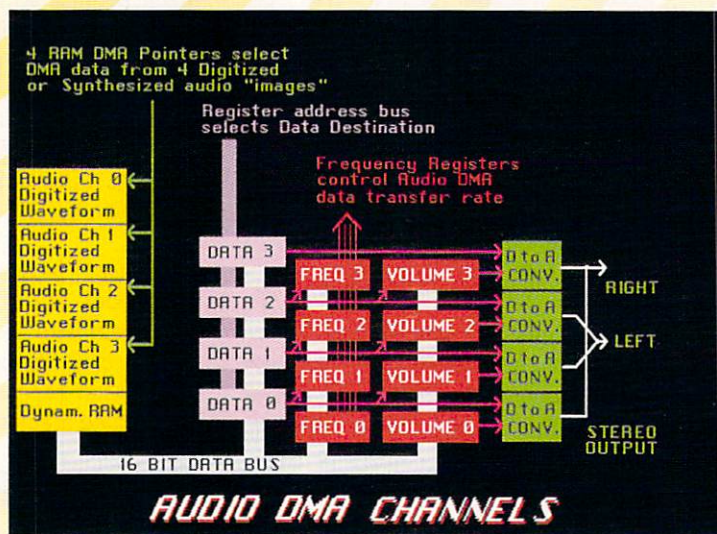
► Researchers around the country are working on building ultra-tiny, ultra-fast molecular circuits that could make personal computers faster than a Cray supercomputer. Tiny logic gates based on carbon chains are built up atom by atom, and will eventually be assembled into more complex computer circuitry. Speculation is that within 10 to 15 years we'll have powerful computers small enough to fit inside a human cell.

► Unless you've been asleep under a rock someplace, you are probably already familiar with the concept of cold fusion. A couple of months ago, Dr. B. Stanley Pons of the University of Utah and Dr. Martin Fleischmann of the University of Southampton in England announced that they had induced the fusion of deuterium nuclei in a setup that essentially amounts to a flask of water hooked up to a car battery. A morass of controversy surrounds the discovery, but much of it seems to be political, centering around the fact that the researchers are chemists rather than physicists, and that they announced their results in the popular press rather than in the scientific journals. Whether or not cold fusion is confirmed to the satisfaction of the scientific community (a process that may take years), it does point out one thing: the future is, and is likely to remain, much different than we imagine it to be.

- Mark R. Brown

FUN WITH SOUND & MUSIC

Almost everyone who owns an Amiga plays with the fantastic graphics. But the Amiga's sound capabilities are no less fascinating. The Amiga is capable of producing four-voice stereo sound that can blow your socks off. And the best part is, Amiga sound can be just as much fun as Amiga graphics.



Jay Miner's block diagram of the Amiga's audio DMA channels.

The Amiga works directly with three types of sound. Of course, the Amiga's Paula chip, which handles sound, can't really tell which kind it's playing at any one time. To Paula, all sounds are the same -- a series of bits that tell it what frequencies it should produce at which volumes. But the Amiga's powerful combination of specialized hardware and software makes it uniquely suited to manipulating digitized sounds, speech, and synthesized music. And with a little additional hardware, it performs as a very capable MIDI music controller, too.

FUN WITH SOUND

Sounds are analog. That is, they vary smoothly over time. But they can be

digitized -- broken up into discrete, stepwise signals that can be stored in a computer or on disk. Audio compact discs store music this way, which is what makes them sound so clean and crisp. You don't actually listen to what's recorded on the disk, because that is digital data. The data is translated by the CD player back into analog sounds. This A/D (Analog-to-Digital) recording and D/A (Digital-to-Analog) playback process eliminates scratches, pops, and other sound-destroying distortions. While the built-in digital sound capability of the Amiga isn't quite audio CD quality, it is the best available on any personal computer. It's more than adequate for realistically recording and playing back voices, sound effects, and even music.

Digitized sounds take up lots of computer memory and space on disk. A sim-

ple "pop" or "plink" runs about 3K; Clint Eastwood saying "Go ahead -- Make my day!" occupies a 42K file. My library of 65 sound effects and famous phrases fills 1.5 megabytes of hard disk storage space. A surprisingly large portion of the disk space for many games is taken up simply by the digitized sound effects.

At INFO, we play sampled sounds using a public domain sound player called SOUND, written by Richard Lee Stockton of *Nag Plus* fame. "SOUND filename" plays any digitized sound file, and we can even feed it numbers to vary the playback rate if we want to, to make Dirty Harry sound like Dirty Shirley Temple.

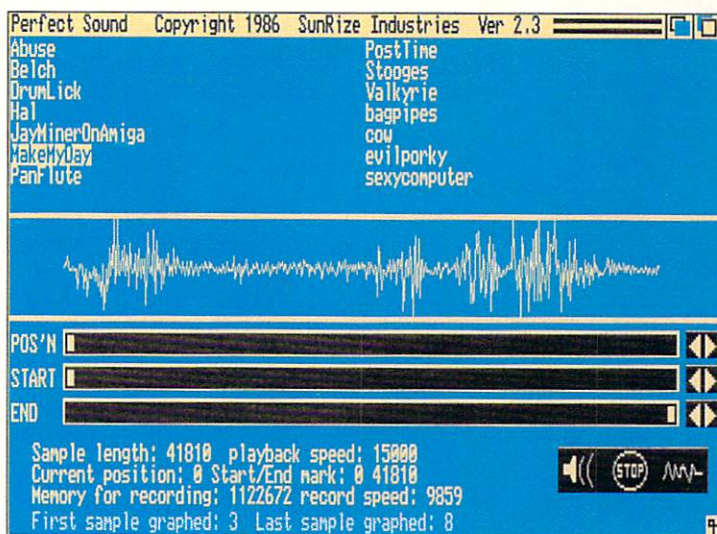
So what can you do with digitized sounds? One favorite here in the INFO offices is to play a digitized sound file as part of the Amiga's startup-sequence.

Tom's machine plays a snippet of Wagner's "Ride of the Valkyries" as it boots; Judi's machine says "I am completely operational and all my circuits are functioning perfectly," in the voice of HAL, the computer from the movie *2001*. Mine used to give off an evil laugh in the voice of Porky Pig, but I recently changed it to a more patriotic digitized sample of Jay Miner expressing his feelings towards the Amiga: "This was, for me, the culmination of my whole career in electronics." It's fun, and it actually serves a useful purpose: by making the soundfile the last thing to execute in a startup-sequence, we can go away and do something else while our machines reboot. By listening for our unique sound, we instantly know when our own machine is done booting.

Using a public domain function key programmer, I've mapped a half-dozen sounds to my function keys. When I'm on the phone to the East or West coast and they make some derogatory comment about us "out there on the farm in Ioway" I can play the appropriate cow, pig, and chicken sounds in the background with a single keypress. There's also one key programmed with a file called "Abuse" that sits ready to rain a hair-straightening tirade on an unsuspecting victim.

For even more control, you might want to check out a commercial drum program like New Wave's *Dynamic Drums*. This program turns the numeric keypad into a complete drumkit. You can load in a set of sounds and play a different one with each key on the pad. I've got two different drum sets built up of Three Stooges slaps, pokes, "woos," and bonks, and can create absolute pandemonium with just a bit of key-tapping. On the more serious side, you can also put together real drum sets and assemble actual rhythm tracks for songs.

Most sound editors have the option to turn a digitized sound into an Amiga Instrument file, which can be loaded into a music program and played as a multi-octave musical instrument. It's a



The Perfect Sound editor graphs a famous Clint Eastwood quote.

real kick to turn real-world digitized sounds like a dog bark or someone saying "Doo" into music!

You can even add sound effects to your computer animations. The public domain animation player MOVIE lets you specify a soundfile to accompany your film. Several commercial animation packages, like *MovieSetter* and *Zoetrope*, let you add sound effects in an even more sophisticated manner.

So where do you get these great digitized sounds? Most of the sound files we play with have come from the public domain. SunRize Industries, the folks who created the *Perfect Sound* digitizer, have released many digitized sounds into the public domain for the enjoyment of all. Amiga owners who own *Perfect Sound* or other digitizers have added to the vast library of digitized sounds that are available online, from user group libraries, or from the purveyors of public domain disk collections, such as Chiron and Comp-U-Save. And there are even two or three companies that sell commercial collections of digitized sounds.

Many commercial programs also use digitized sound effects, and if you're a skilled reader of filenames (and a good guesser) you can sometimes copy those digitized sound effects files to another disk to play with, even if the game itself

is copy-protected. (Such sound files are copyrighted, however, and you cannot legally distribute them to others.) The "Panflute" sound listed on the *Perfect Sound* editor screen that above was taken from Discovery's *Marauder* disk. ("Panflute" was its name on the disk, so it was pretty easy to guess what it was!) I also have a library of auto racing sounds, golf sounds, the sound of cards shuffling, and many more that I have borrowed from commercial disks.

Of course, you can also digitize your own sounds. For that you'll need a sound digitizer. There are at least a half dozen on the market for the Amiga now (see product listing). Since the Amiga does stereo, you'll want a stereo digitizer to get the full effect of what it can do. All samplers allow you to plug in line-level inputs from a TV, VCR, stereo, or tape player, and some let you use a microphone, too. Each digitizer comes with its own digitizing and editing software, and there are a couple of stand-alone sound editor / digitizer programs that you can buy if you're not satisfied with the one that comes with the hardware. But, aside from some differences in aesthetics and a few special effects, they all let you do the basics.

Setting the sample rate correctly is very important to good sound. A high

*Instant
Music
from
Electronic
Arts.*



sample rate gives better fidelity; a lower rate makes for smaller file sizes. If you are sampling high-frequency sounds, you'll have to use a high sampling rate anyway, or you'll run into problems. You'll also have to adjust the input volume to get a good sample, so it may take you a few trial runs to capture a good sound.

Once the sample's in the editor, you'll find you have a lot of options. You can change the playback rate to make the pitch higher or lower. Turn Dad into a soprano, or make the cat growl like a tiger! You can graph the sound to see what it looks like, and repetitively cut and paste pieces of it. That's how they make Max Headroom say "M-M-M-Max Head-Headroom." You can even flip the sample and play it backwards. Here's your chance to check out the "backward masking" in all those heavy metal songs! You can also combine samples to make new sounds: start a sound with a gunshot, segue into a harp, and finish up with a birdwhistle if you like. Or you can turn two samples into one stereo sample, with one voice coming out of the left speaker, and one out of the right. By using combinations of all these techniques, you can come up with some crazy sound effects!

If you want to get a feel for digitized sounds and sound editing, we suggest you obtain some public domain sound

samples and a freely-distributable sound editor. Doug Ochsner's public domain OXSOUND is a good PD editor, and if you can find a copy, Sunrize allows you to use the sound editor that comes with *Perfect Sound* for up to two weeks without paying them a fee.

FUN WITH SPEECH

The Amiga is the only personal computer with built-in speech, and you'll find just about everything you need to experiment with Amiga speech right in your Amiga manual. Despite this, most software developers have failed to take advantage of the Amiga's speech capabilities. Perhaps this is because even the Amiga's sophisticated speech sounds artificial. It is, however, very understandable, and can be made even more so by fiddling with the speech parameters. And it can be a lot of fun to play with.

Amiga speech is handled by the SAY command and, under AmigaDOS v1.3, the SPEAK: device. Each takes the same parameters, and each is useful for some applications. The SPEAK: device is best for speaking output that would normally go from a program to a file or to the printer; the SAY command is best for direct, interactive user input. If you simply type "RUN SAY" from the CLI, two windows will open up on the Work-

Bench screen. The bottom one is the "Input window." This is where you type the words you want spoken. When you hit <return>, the Amiga translates your text into speech and displays the results in the "Phoneme window." This built-in text-to-speech translation is what gives the Amiga its voice. Many words translate very well, but as you experiment, you may find that some words sound better if you misspell them. For example, "cow" comes out "koe." "Kao" sounds closer to the real thing.

Amiga speech is more fun if you play with the parameters, too. You can adjust the pitch and speed, and specify a male or female tone with natural or flat "robot" inflection. If you run SAY twice with different parameters, you can set up a conversation with male and female or natural and robot voices acting out a scene. Of course, you can also record the output, which can make for some really fun answering machine messages (as you've discovered if you've ever called the INFO offices after hours).

The SAY command and SPEAK: device can also be used to speak textfiles, which can be useful as well as entertaining. For example, you could have the Amiga read you a file containing a program tutorial while you listen and follow along. An Amiga reading a properly-phrased textfile also makes one mean aerobics instructor! ("One, Two, One, Two. Move it, you flabby deadbeat!") You can make sure the computer keeps accurate timing by adjusting the output with the speed parameter.

On a more serious note, there are thousands of people who have had surgery that has left them without speech. They are usually taught to speak using a vibrating electronic "voicebox" or by using a method of belching their words. But for speech-impaired individuals, the Amiga's speech may be a better alternative for use on the telephone. That individual could type sentences on the Amiga, where they would be translated instantaneously into speech. With a little practice, the results should be quite good. (It's just too bad the Amiga's speech isn't portable!)

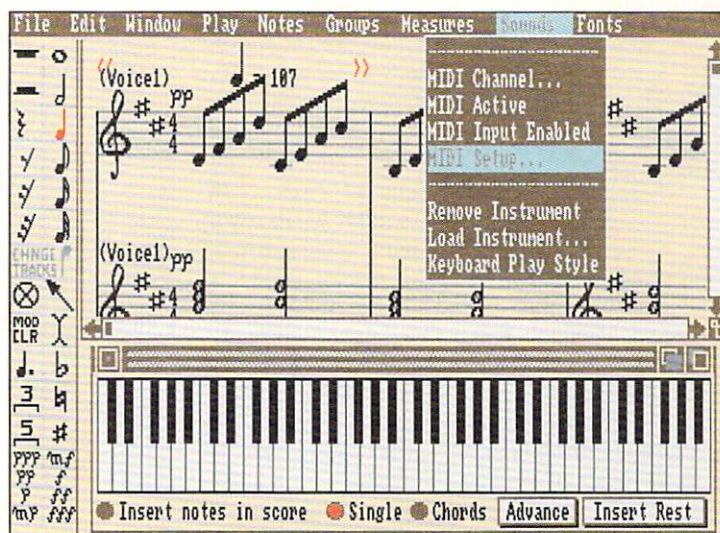
FUN WITH MUSIC

Amiga music is simply the finest music you will ever hear on a personal computer. The Amiga is capable of playing four-part harmonies that sound like live performances, as you know if you've ever played an Amiga game.

The easiest way to get into Amiga music is to download or otherwise get your hands on some of the fine public domain music out there. Sonix-compatible SMUS music files can be played using any of many different PD players. We use Mark Riley's PLAY. Just remember that, in order to play a PD SMUS song, you have to have both the musical score file, and the files for any Instruments it uses.

Amiga music programs use Instruments created in one of two ways. One we've already mentioned: they can be created from digitized sounds. *Instant Music*, *Music Mouse*, and many other Amiga programs use digitized sounds as instruments. But instruments can also be made by setting various parameters directly, just as you would if you were playing a synthesizer. Most music programs, like *Deluxe Music Construction Set*, *Sonix*, and *The Music Studio*, have gadget-laden screens devoted to the creation of such synthesized instruments. These can be saved and loaded in to be used in other music programs. But they can't be played by themselves. They have to be used from within a music program, or as part of a music score. If you're interested in a program that's dedicated to creating instruments, check out *Synthia* from The Other Guys.

Amiga music programs tend to each have their own format for saving music files, so music scores aren't always interchangeable between programs. And the only public domain song players we've seen have been for SMUS files only. Fortunately, we have seen a *Music Studio*-to-SMUS conversion program called MS2SMUS, and *Deluxe Music* includes an option to save a score in SMUS format. Aside from SMUS files, though, people will have to own the same music program you do in order to



Deluxe Music Construction Set from Electronic Arts.

play the music you create.

And creating the music can be the difficult part. There are hundreds of public domain *Deluxe Music* and *Sonix*/SMUS scores available, and listening to them is the best way to become familiar with what it's possible to do on the Amiga. If you are a musician already, or at least have some familiarity with music, any of the music programs we've mentioned will get you into creating songs. But if you're a musical klutz and can't carry a tune in a bucket, there's still hope.

Music Mouse and *Instant Music* were created to be music programs for non-musicians. They let you point and click and get interesting sounds from the very start. Of the two, *Music Mouse* is the more ambitious, and requires more patience, study, and experimentation. It is fun to play with, but the results are most often strange-sounding sequences that are melodic and rhythmic, but non-tuneful. *Music Mouse* makes a great tool for musicians who are looking for inspiration, as you can load in a set of instruments, select scales and patterns, and mouse away, letting patterns emerge that range from discordant to soothing. If you're a New Age kind of a guy, you'll love it, but if you wanna play rock and roll, it's not for you. *Instant Music* is more for the frustrated musician in all of us. It comes with a library of pre-composed songs that you

can play along with. It doesn't let you play anything out of tune, though it does give you a lot of options regarding rhythm, instruments, and pitch. Most people can sit down to *Instant Music* and be kickin' out the jams like Eric Clapton in just a few minutes. It is, without doubt, the most 'instantly gratifying' music program you'll ever find. We suggest *Instant Music* rock fans also pick up a copy of *It's Only Rock'n'Roll*, an excellent collection of additional rock tunes and instruments.

On the horizon is a program called *Harmony* from Impulse which will let you whistle or sing into a microphone and translate that input into fully-orchestrated music. We've seen it demonstrated at shows, and have played with a commercial instrument called the *Vocalizer* that does essentially the same thing, and it should be a blast.

EXPERIMENT

Don't be afraid to experiment with the Amiga's audio capabilities. Start with the built-in speech, then look for some of the public domain music and sound programs we've mentioned, and move on to the commercial sound and music programs. Once you get your feet wet, you'll discover that the Amiga is just as powerful an audio tool as it is a graphics tool. And just as much fun!



MINDLIGHT7 \$178.00

Visual Aural Animation
PO Box 4898, Arcata, CA 95521
707-822-4800

One of the questions most often asked of reviewers is what their all-time favorite program is. For the past year or so, my answer to that has invariably been the *Mindlight 7* and *Visual Aural*s, or *Viz* for short. Describing it is something akin to telling a blind person about a sunset: all the best chosen words in the language cannot convey what a single glance can show.

The nearest analogy is a color organ, that staple of Sixties psychedelia that projected patterns and colors onto a screen at concerts. They were primitive and didn't really have much to do with the music directly. *Viz*, on the other hand, has everything to do with music. Driven by any audio source, including MIDI, *Viz* produces animated, abstract patterns completely synchronized with the music it hears; it lets you see music. It is a fascination, in the old sense of the word, something that

holds the attention in willing thrall. In essence, what *Viz* does is manipulate bitplanes in unusual ways. In addition to its own main screen where it paints with its library of shapes, it also uses two backdrop screens loaded in by the user. (The latest version, 1.77, also supports A-Squared's *Live* video digitizer, so you can have *Viz*' animations running over a live video image.) In addition to painting with its own graphics primitives, *Viz* can also paint with pieces of the backdrop screens. While this is going on, it is performing the most sophisticated color cycling and palette swapping I've seen. In *Evolve* mode, all of this is done automatically so you can just sit back and enjoy it. On another level, *Viz* is an entirely new type of fully controllable instrument; not a musical instrument, but a visual one. Like any instrument, it takes practice to get it to do what you want, but



unlike a musical instrument it is impossible to hit sour notes; no matter what you do, the effect is still beautiful.

This is a product that could only exist on the Amiga, and one that Visual Aural Animation should be very proud of. In the many months I've played with it, made backdrop screens for it, and learned how to release some of its magic, I have never been bored by it, or found it less than mesmerizing. It comes closer to being true computer-generated art than anything I've seen. One look and your Amiga will seem barren without it. - Tom Malcom

PRODUCT LIST

SOUND DIGITIZERS

A.M.A.S. \$69.95
MicroDeal, 576 S. Telegraph,
Pontiac MI 48053, 313-334-8726
FutureSound \$179.00
Applied Visions, 1 Kendall Sq.
Ste. 2200, Cambridge MA
02139, 617-494-5417
Omega \$139.95
Starvision Int'l, 305 Madison
Ave. Ste. 411, New York NY
10165, 212-867-4486
Perfect Sound II \$99.00
Sunrise Industries, PO Box
1453, College Station TX 77801,
409-846-1311
Pro Sound Designer \$159.95
Precision Software, 8404 Ster-
ling St. Ste. A, Irving TX 75063,
214-929-4888

Pro Sampler Studio \$119.95
Datel, 2116 S. Wright St., Santa
Ana CA 92705, 714-549-1848
SoundScape \$99.95
Mimetics, PO Box 1560, Cuper-
tino CA 95015, 408-741-0117

SOUND EDITORS

Audio Master II \$59.95
Aegis Development, 2115 Pico
Blvd., Santa Monica CA 90405,
213-392-9972
Studio Magic \$99.95
Sunrise Industries, PO Box
1453, College Station TX 77801,
409-846-1311
Synthia \$99.95
The Other Guys, 55 N. Main St.
Ste. 301D, Logan UT 84321,
801-753-7620

DRUM MACHINES

ADrum \$79.95
Haitek, 208 Carrollton Park Ste.
1207, Carrollton TX 75006, 214-
241-8030
Dynamic Drums \$79.95
New Wave, PO Box 438, St.
Clair Shores MI 48080, 313-771-
4465
Drum Studio \$29.95
DigiTek, 8910 N. Dale Mabry
Ste. 37, Tampa FL 33614, 813-
933-8023

SOUND LIBRARIES

DataSound, 603 Brantley Place,
Virginia Beach VA 23452
ECT Sampleware, PO Box 36,
Sierra Madre CA 91024
Karl R. Denton Assoc., PO Box
56, Westland MI 48185
WaveTable Technologies, 1647
Willowpass Rd. Ste. 267, Con-
cord CA 94520

MUSIC PROGRAMS

**Deluxe Music Construction
Set** \$99.95, Electronic Arts,
1820 Gateway Dr., San Mateo
CA 94404, 415-571-7171
Instant Music \$49.95
Electronic Arts, 1820 Gateway
Dr., San Mateo CA 94404, 415-
571-7171
M \$200.00, Intelligent Music,
116 N. Lake Ave., Albany NY
12206, 518-434-4110
Music Mouse \$79.00
Opcode Systems, 1024 Hamilton
Ct., Menlo Park CA 94025, 415-
321-8977
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Menlo Park CA 94025, 415-329-
0080
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Aegis Development, 2115 Pico
Blvd., Santa Monica CA 90405,
213-392-9972

INFO UPDATE



OOPS

We accidentally typoed *Twin Cities* 128's post office box number at the end of the interview with publisher Loren Lovhaug in issue 26. The correct address is PO Box 11578, Minneapolis MN 55411.

MOVES

The following are all the new addresses and/or phone numbers we've heard about lately. If your company is contemplating a move, please let us know your new address as quickly as possible so we can let everyone else know.

True Basic, 12 Commerce Ave., West Lebanon NH 03784. 603-298-5655.

Digital Creations, 2865 Sunrise Blvd., #103, Rancho Cordova, CA 95670.

Hi-Tech Expressions, 584 Broadway, New York NY 10012

Micro R&D, 3107 W. Hampden Ave., Sheridan CO 80110. 303-789-0424.

Psygnosis British offices, (the U.S. contact is still CSS), 122 Century Building, Tower Street, Brunswick Business Park, Liverpool, UK L3 4BJ. 051 709 5755 Voice, 051 709 6466 FAX.

Micro-Pace, Commercial Park West, 604 Country Fair Dr., Suite C, Champaign IL 61821. 217-356-1885 voice, 217-356-0097 FAX.

VERSIONS

Access Software, in a move we wish would happen more often, is releasing upgrades to their *Course Disks for World Tour Golf*. The main reason for the upgrade is that the graphics have been improved. The first disk should be out by the time you read this, with the second and third following at two-month intervals. 545 West 550 South, #130, Bountiful UT 84010. 801-298-9077.

Blue Ribbon Bakery has added AREXX support to their *Who!What!When!Where!* desktop organizer. Owners can update to version 1.1 by sending their original program disk and \$3.00 to 1248 Clairmont Rd., Suite 3D, Atlanta GA 30030. 404-377-1514.

Soft Logik's PageStream is now at version 1.6. We've heard from users that this version is more powerful and much less buggy than the version we reviewed last issue. We're putting this latest version through its paces and will update you next issue.

Dynamic Studio, from **New Wave Software**, is at version 3.02. Among other things, the new version now works with New Wave's *Oasis*. Registered owners can upgrade for \$15. (Incidentally, New Wave is offering *Dynamic Studio* to registered *Dynamic Drums* owners for \$120 - a considerable saving.) 22615 Carolina, St. Clair Shores MI 48080. 313-7714465.

Central Point Software's Copy II C64/128 disk archiver is up to version 4 and it now offers support for the 1581. New parameters have been added and registered owners can update for \$18. 15220 NW Greenbrier Pkwy, #200, Beaverton, OR 97006. 503-690-8090.

PRICE CHANGES

Genie, the online service, announced that they're lowering their primetime rates to \$18 an hour for all baud rates. They're also lowering the non-prime rate for 2400 baud from \$12.50 to \$10/hour. However, the 1200 baud non-prime, which is obviously the most popular, is being raised from \$5 to \$6.

Lattice has reduced the price of their C++ package from \$500 to \$300, and are offering price breaks in the form of coupons for those wishing to upgrade to C++ from earlier versions. Contact

Lattice for more details. 2500 S. Highland Ave., Lombard IL 60148. 312-916-1600.

While they're still not exactly giving the things away, **QMS** has reduced the list price of their *PS-810* PostScript laser printer (yes, that's the one we use here at INFO) from \$5495 to \$4995. They have also reduced the price of their high-end color PostScript printers: the *ColorScript 100 Model 30* is down to \$19,995 and the *Model 20* has been reduced from \$16,995 to \$15,995.

EXCHANGE POLICY

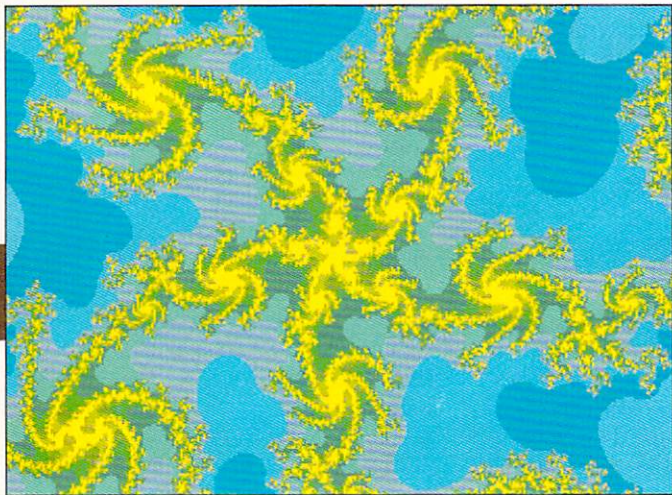
In an unusual move, **Interplay** has announced that just because you're changing computers, you don't have to give up the Interplay titles (*Neuromancer* and *Battle Chess* to name two) you have for your present machine. If you send them your original disk, a note stating which version you want (be sure to include your return address as well), and \$15 plus \$3.50 S&H, Interplay will send you the version for your new computer. That's what we call a generous policy. The address is Interplay Exchange, PO Box 8123, San Francisco CA 94128-9986.

CHANGES

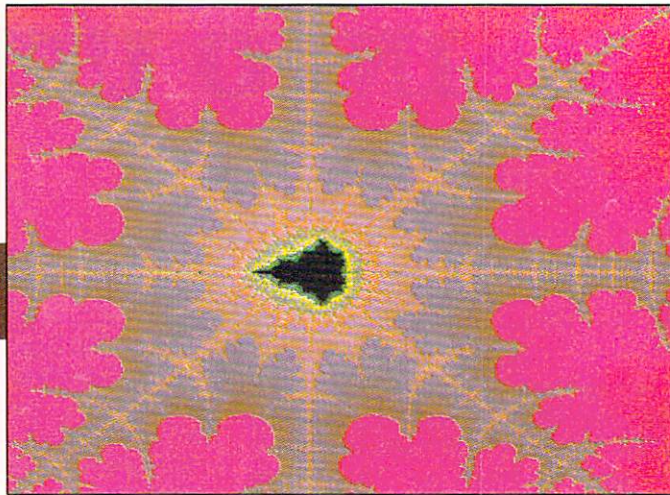
Virgin/Mastertronic announced that they will no longer be distributing their **Leisure Genius** line of games through Electronic Arts, opting instead to use their own distribution channels.

CREDIT

We inadvertently omitted the names of the artists responsible for the artwork in last issue's 8-Bit PeopleLink Public Domain column. T. Preston Chesser is the artist who created GGMEMORY and GGERMAN CASTLE. Unfortunately, the only clue we have as to the artist for JLAST SPELL are the initials in the corner of the picture: HAMM. ★



Star spirals found with *Analytic Art*



Infinity found in the Mandelbrot Set with *HAMandel*

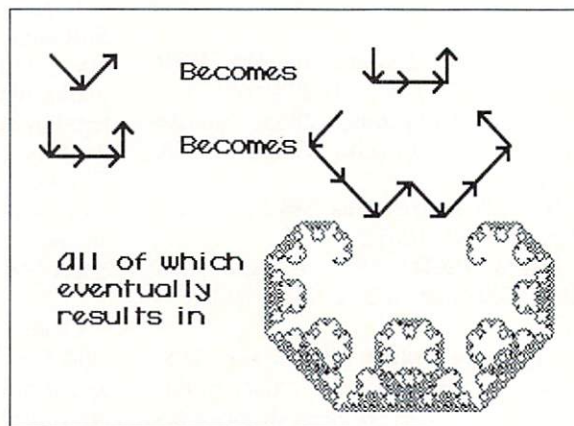
FRACTAL VISIONS

by Tom Malcom

Much of the fascination of fractals comes, I think, from their inherently infinite nature. The notion of never being able to reach the end of an ever changing and beautiful mathematical landscape holds out the possibility of finding territories never before seen. Fractals offer, in an ever-shrinking world, a self-contained universe awaiting a Columbus. And all that's needed to begin the voyage of discovery is an Amiga and the right software.

At the most basic level, fractals are simply the repetition of a shape on an ever-smaller scale. As an example, if a line is divided into two segments, and shaped like the vee in the illustration, each of the segments can be subdivided into two more segments, identical in shape to the original vee. The process can be repeated infinitely, with each subdivision being an iteration. Of course, it isn't humanly possible to draw such tiny segments, and that's where the computer comes in. Since lines can be described as mathematical formulas, the computer can infinitely magnify and subdivide the line by plugging new values into the formula:

zooming. And because fractals are not bounded by scale, they can be infinitely magnified to reveal ever more detail. This is, obviously, a simplified explanation that applies only to simple shapes, but the same principles can also be applied to more complex and abstruse shapes and sets of numbers. The Mandelbrot Set (named for Benoit Mandelbrot, who was the first to describe fractal geometry; he even coined the term *fractal*) is the most often seen example. [For details on the mathematics of all this, *The Science of Fractal Images*, published by Springer-Verlag and edited by Heinz-Otto Peitgen and Dietmar Saupe, is an excellent resource.]

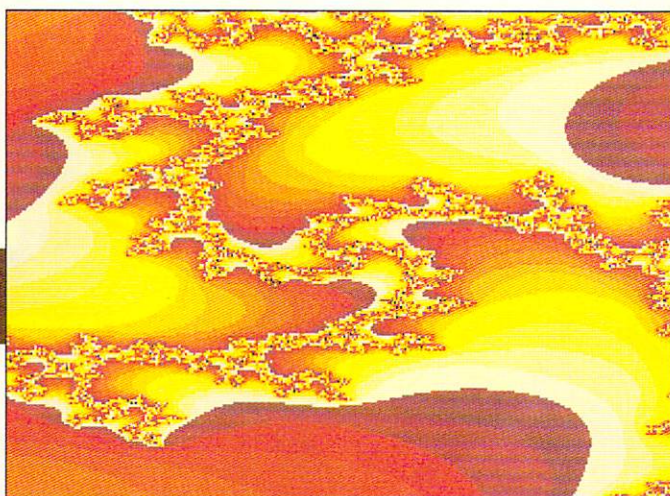


How simple fractals are formed

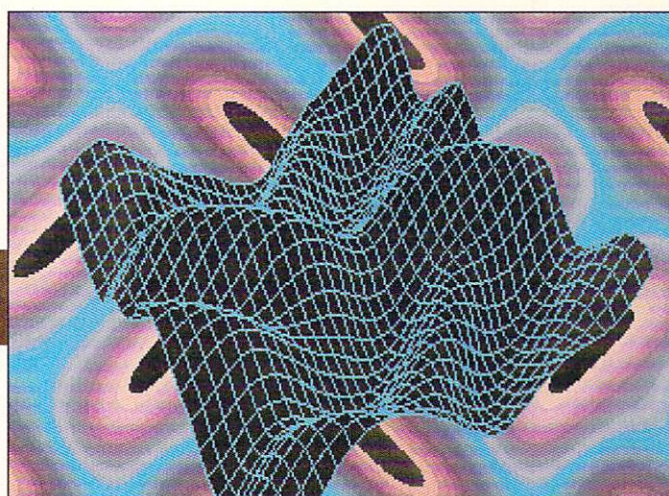
The main function of the Amiga is to take the results of these iterations and turn them into something visual by assigning a color to a particular range of values and displaying them on the screen. The resulting images, depending on the formula used, can be anything from extremely naturalistic landscapes to the sinuous beauty of the Mandelbrot Set.

AMIGA SOFTWARE

The best part of exploring fractals on the Amiga, though, is that you don't have to know anything about mathematics to achieve impressive results; it's



Mandelbrot zoom from *MandFXP*



Formula rendering by *Doug's Math Aquarium*

more a matter of exploring than of mathematical prowess. There are a number of programs, both commercial and public domain, that will let you dive right in. With a couple of exceptions, the main purpose of the programs is exploring the Mandelbrot Set, letting the user pick an area of the image and magnify it, thus revealing new detail. This doesn't pretend to be a complete list of the available software; rather, it's an overview of programs we've had particularly good (or fun) results with.

The most impressive and the fastest of the programs is Crystal Rose's *Analytic Art* 1.1. The user interface is the friendliest of the lot, though the concepts take enough getting used to that it's a necessity to go through the brief but effective tutorial. Color, iteration, zoom control, and resolution are interconnected in a creative and flexibly versatile way that is shared through all of its modules. These other modules generate screens from other recursive processes (Sierpinski gaskets and Henon curves), as well as wrapping the images around spheres, and projecting Mandelbrot zooms in 3D with perspective control. All resolutions except HAM are supported, but there is, unfortunately, no provision for color cycling. That will show up eventually in the unfinished sixth module.

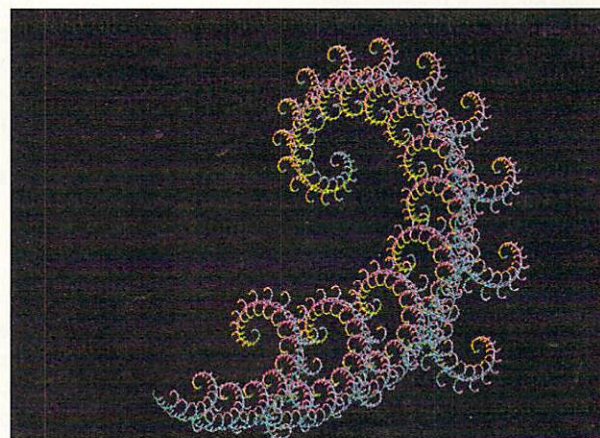
For sheer beauty, the images produced by *HAMandel* are unsurpassed. The program is in two modules. The first simply permits zooming in on the Mandelbrot set, but draws the images in HAM mode, with your choice of the number of colors used up to 1023. The user interface is extremely spartan,

though functional. It even supports color cycling, though there doesn't seem to be any way to design your own palette, aside from shading the entire screen in red, green, or blue. The most interesting part of the program, though, is an add-on module, *AutoMag*, which will automatically generate a series of up to 100 zooms for animation. The results are similar to what can be seen in the *Nothing But Zooms* video [see sidebar] and will leave you sockless.

CygnusSoft's *MandFXP-E* is one of the earliest Mandelbrot programs and still has its considerable charms. It has a wealth of options and controls to fiddle with, including a handy menu item to restore aspect ratio. It does, however, tend to slow down considerably as magnification and iteration count increase. It's a good choice if many options are needed and you have plenty of time. There is also a PD version of the program available that will provide a very good introduction to what zooming is all about.

The Mandelbrot Set is, of course, only one small part of mathematics; if you have a yen to explore other aspects and aren't squeamish about getting down into the nuts and bolts of mathematics, *Doug's Math Aquarium* will let you try your hand at generating images from your own formulas. Recursive functions are provided, and while

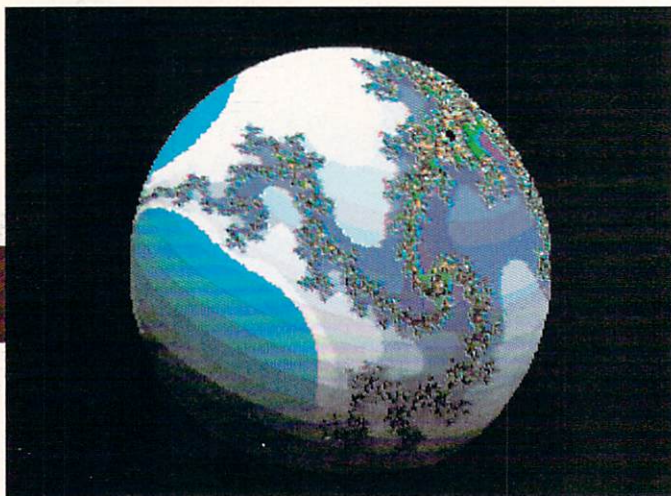
they're not terribly easy to use, there are examples that provide a good jumping off place for experimentation. *DMA* offers many features, including the excellent color control which was later developed into *Doug's Color Command*.



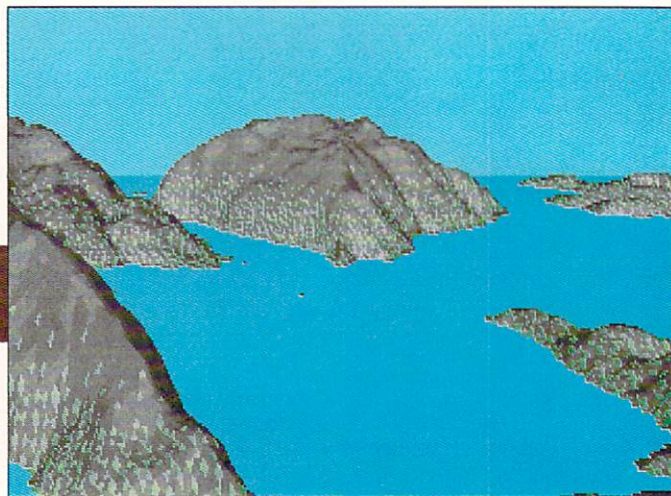
Particularly nice spiral from *Fracgen*

Along with *DMA* comes a stand-alone PD program called *Fracgen*. It provides an easy-to-use basic fractal generator. You're presented with a line and given the ability to divide it into segments which can be pushed and pulled into a basic seed shape that is then fractalized according to user-defined parameters. The resulting images can be anything from intricately symmetrical patterns to very real-looking plantlike structures. The program is swift enough that tweaking the seed shape and then redrawing can get to be obsessive.

There are several public domain fractal programs that will let you start exploring without a cash investment. In



Mandelbrot world from Russell Leighton's *Planet*



Landscape created by Brett Casebolt's *Scenery*

... continued

addition to the PD version of *MandFXP*, of particular note are *Mand* and *Julia* (a variation of the Mandelbrot Set), both developed by Richie Bielak and downloadable from PeopleLink.

MORE TOYS

But what possible use are these patterns and images? If beauty for its own sake isn't enough, you can use them as parts of other pictures, or manipulate them in other ways, such as using them for surface textures in *Turbo Silver*. With the tools available, we have the ability to create completely computer-generated landscapes and even worlds of astonishing beauty.

There is even a PD program called *Planet*, written by Russell Leighton, that will take any IFF screen and map it onto a globe. *Planet* can be used with any IFF file, but when it is used with a Mandelbrot screen, the effect is an alien and wonderful planet rendered in convincingly shaded HAM mode. Though its results can be breathtaking, unfortunately the program's user interface is nonexistent; it runs from the CLI, and must be accompanied by a double handful of numeric parameters. Similar effects can also be achieved by wrapping the image around a sphere (or any of the other shapes) in *Photon Paint*.

Brett Casebolt's PD program *Scenery* doesn't deal with imaginary number sets at all, but uses the principles of fractal geometry and recursion to produce mountainous landscapes that are almost photographically real. All you

have to do is feed the program a seed number and it does the rest, though you do have some control over light source and water level. Several other less-detailed wireframe scenery generators are also available in the public domain.

We Amiga owners are fortunate to have the best tool this side of a mainframe to explore the universe of fractals. Take a look - you'll find wonder and amazement at every zoom.

COMPANY LIST

MandFXP

CygnusSoft,
315-1111 Pacific Street,
Vancouver, BC V6E 3X7 Canada

Analytic Art

Crystal Rose Software
109 S. Los Robles,
Pasadena, CA 91101
818-795-6664

HAMandel

MegageM
1903 Adria,
Santa Maria, CA 93454
805-349-1104

Doug's Math Aquarium

Seven Seas Software
35 Cape George Wye,
Port Townsend, WA 98368
206-385-1956

PD/SHAREWARE:

Scenery	Brett Casebolt
Planet	Russell Leighton
Julia	Richie Bielak
Mand	Richie Bielak
MandFXP	CygnusSoft
(Demo version)	

VIDEO ZOOMS

Amygdala is a newsletter devoted to fractals and the Mandelbrot Set, and publisher Rollo Silver has also made available books, FORTRAN program listings, prints, slides, and, best of all, videos. *Nothing but Zooms* is a 30-minute video of Mandelbrot zooms (set to music, of course) done by the Cornell supercomputing center, and it's some of the most breathtaking footage I've ever seen. It also has the side benefit of pointing out promising areas for exploration on your own. With the release of the *HAMandel AutoMag* module, I expect to see even better videos done on the Amiga. *Amygdala* itself is a good resource for fractal fans, and though it sometimes gets mathematically technical, there is also news about what's going on in the field, as well as the occasional bit of fun. The March issue, for example, contains a wonderful fiction piece on the Amygdalan Sects that sprung up after the collapse of civilization. It seems mankind became so enamored of exploring the Mandelbrot set that no time was left for maintaining the infrastructure of society. [PO Box 219, San Cristobal, NM 87564. 505-758-7461]

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WHAT MAKES IT GOOD?

We get a lot of software in the mail and most of it, frankly, isn't very good. Problem is, we're in business to make money, and the last thing we can afford to do is honk off a bunch of advertisers by telling the public the truth about their products. So setting some sort of standards by which to review software is a very, very difficult task. Lots of readers have asked us about the review process, so as best as I can without giving away the farm, here's a simplified explanation of how we look at software.

The first thing we ask ourselves when a new piece of software comes in is: Do we like these people? We figure if the company that produces the product is staffed by real nice people, we ought to give them a break, right? And if they're a

bunch of New York / New Jersey fast talkers, do we really want to cut them any slack? After all, would they cut any for us? Heck no!

Secondly, we look at the premiums that come with the software. If it's a game with a whistle, a balloon with the name of the game on it, maybe a t-shirt or an embossed LCD watch, it's got to be better than something that shows up without any accompanying premiums, right? Otherwise, they wouldn't have spent so much money on promotional items.

Our third consideration is whether or not they've treated us to a good time lately. Did they offer to buy us lunch at the last computer show? Did they take us on the town? Were the hors d'ouvres at their hospitality suite tasty, and the beer

cold? We consider these to be indicators of a financially healthy company that will be around to support new software products later on.

Fourth, we look at their magazine ads and the product packaging. Do the package blurbs and ad copy make it easy for us to plagiarize a review? Is there a press release we can just print verbatim? Are there some keen pictures we can lift and reprint? I mean, why make our jobs more difficult than they have to be?

Once we weigh all these factors, it's relatively easy to come up with a proper rating for a new software title. We hope this little look inside the complex world of computer magazine publishing has been enlightening!

Don Romerror, Publisher,
CHUMP! Amiga

CHUMP! AMIGA MAIL

Dear CHUMP! Amiga;

You guys are, like, radical, and put out the most bitchin' mag in, like, the whole galaxy, except maybe for *RAD SKATEBOARD*. Y'know? - Kenny Mojave, Beverly Hills, CA

Kenny: Thanks for providing this issue's obligatory "CHUMP! Amiga is Great!" letter! And thank your parole officer, Joey, for writing it out for you.

- Don

Dear CHUMP! Amiga;

I typed in "Income Tax Helper" in your April issue, but just two days after I mailed in the tax form it prepared for me, the IRS sent ten agents to lock up my business, confiscate all my possessions, and toss me in jail! They said they'd "never seen such a blatant and obvious case of intentional tax fraud." My wife and kids have moved to another state and changed their names, the church has had me excommunicated, the tax auction is tomorrow, and I can't even get the judge to set bail! What should I do?

- Erving Gold, West Festus, PA

Erv: Lots of readers wrote to us with similar complaints, and a careful re-checking of that program listing revealed a ">" symbol where a "<" symbol should have been in line

350. Correct this error and the program will work just fine.

- Don

Dear CHUMP! Amiga's Editors;

I am loving CHUMP! Amiga magazine, and am thinking it is very fine -- perhaps among the finest of all that were ever been! Anyway, it is having a hard time to be finding your most excellent of magazines in my country, and this has made me to wondering: Could it perhaps make this possible to be sending to me some free copies? Be mostly assured that my many friends and colleges are being most impressed with it, and will be reading it with much pleasure and gusto! I am thanking you in advance for such a fine consideration!

- Stanislaus Krakowski,

United Peoples Republic of Someplace
Behind the Iron Curtain

Dear Stan: Y'know, despite Glasnost and Perestroika and whatever else you East-Bloc Socialists come up with, you never seem to grasp the one basic principle that separates us Post-Industrial Capitalists from you Agrarian Communists -- we SELL this stuff for MONEY, Ivan! The only way you'll ever get anything free from us is to pry it from our dead, cold fingers! Nothing personal, but wise up, guy! Sheesh!

- Don

▽ ▲ ▽ ▲ ▽ ▲ ▽ ▲ ▽ ▲

Psychosis Software has come up with an innovative copy protection scheme that they believe will prove fool-proof. Their method is mechanical: microencapsulated plutonium is imbedded randomly on several unused tracks on the disk surface. Normal disk loads skip over the protected tracks, but any attempt to pirate the disk results in the drive head breaking the capsules and releasing clouds of radioactivity that are lethal within a quarter-mile radius. "It's perfect," asserts Dwayne Zitski, the president of Dust'Em! Inc., developers of the new technique. "In one deft move we wipe out a pirate and the entire gene pool that bred him!" In the wake of the announcement, pirate BBSs are said to be swamped with "Radiation Suit Wanted" ads.

Competition is stiff out there, and YOUR JOBS depend on advertising revenue. There's been some ambiguity in the past regarding how we've treated our advertisers in print. That has to come to an end. To resolve any possible conflicts, I've come up with the following table to assist the advertising sales force and the editorial staff. Follow it to the letter, or you'll answer to me. And I hope I don't have to remind you that this information is STRICTLY CONFIDENTIAL! If word of this gets on the street, it's our keisters!

PRODUCT RATING GUIDELINES

*

PRODUCT RATING GUIDELINES

- ### RATING GUIDELINES
- * Past advertisers who owe us money.
 - ** Non-advertisers.
 - *** Small advertisers with less than a half page.
 - ***+ Half-page advertisers.
 - **** Full page advertisers.
 - ****+ Full page, full-color advertisers.
 - ***** Full page, full-color multi-
- Lists of 300

Lists of acceptable adjectives to be used to describe products in each rating category will be distributed to the editorial staff before the next deadline.

Richard Danheck, Publisher

DATASTORM[®]



Challenge the Datastorm and the Vortex...

Try your hand at these two exciting new
games alone or with a friend, and you
can win other great software titles
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**Great Music, Great Graphics,
Two Great Games!**

**Datastorm and Vortex are available at
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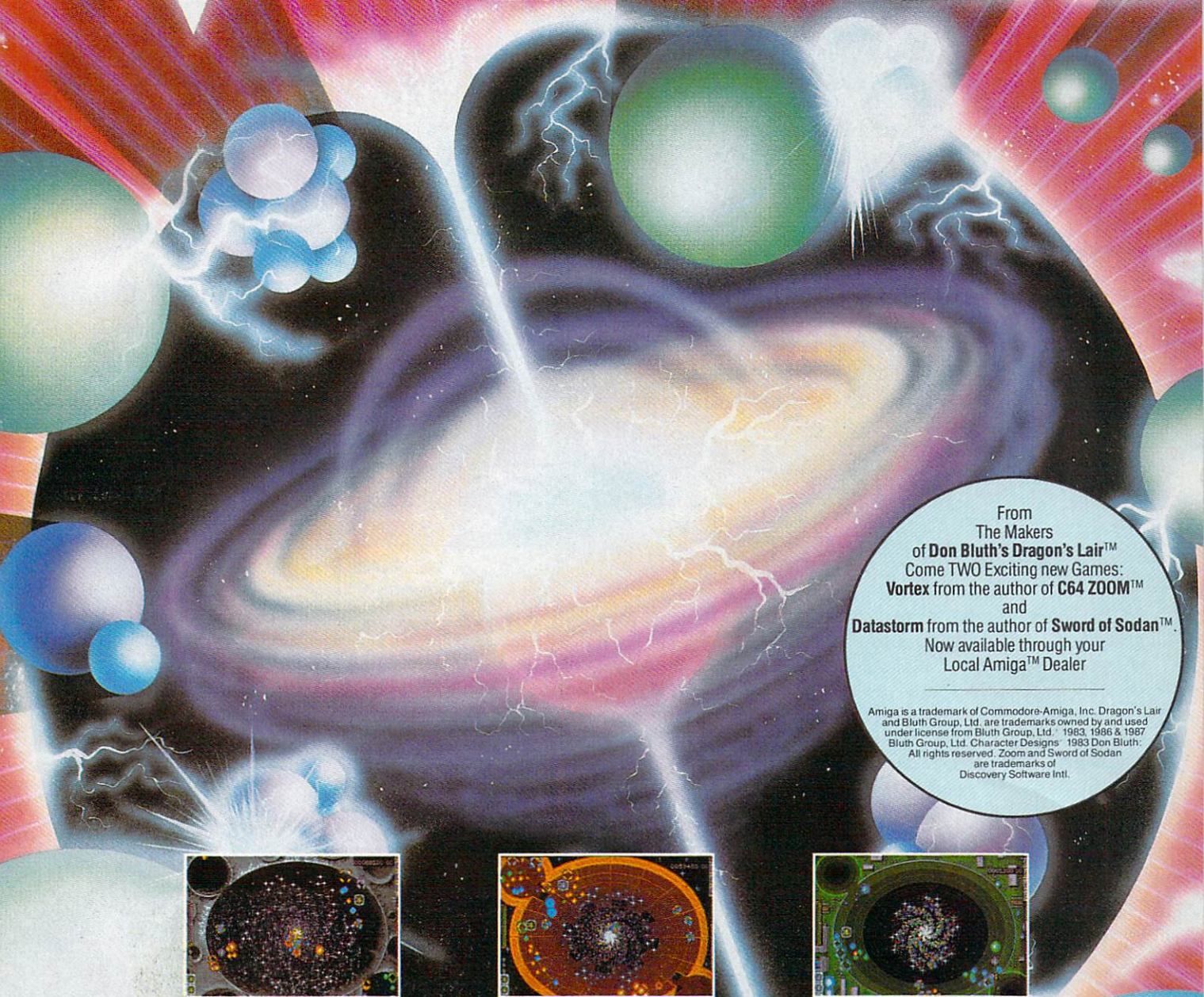
Product of Canada

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Printed in Canada

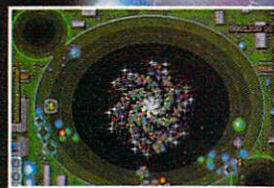
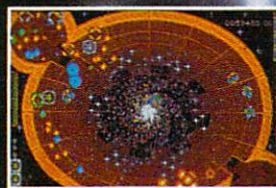
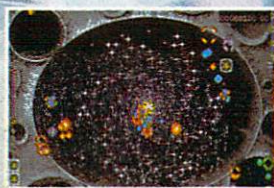
VORTEX

BATTLE AT THE EDGE OF THE UNIVERSE



From
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and
Datastorm from the author of **Sword of Sodan™**
Now available through your
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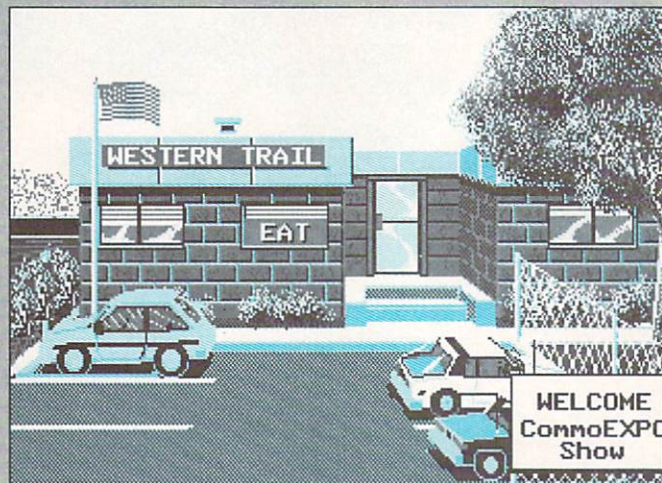
Printed in Canada

by Benn Dunbeefoe

Half of the exhibitors had booked flights for Ohio, Montana, Iowa, and other obscure backwaters before the show management was able to convince them that Kansas wasn't a mythical place made up for the *Wizard of Oz*. Travel agents eventually found "Topeka" buried down in the sixteenth sub-menu on their reservation computers, and a mere six or seven plane changes later, most found themselves a short overnight bus ride away from the show site.

Commodore's new Chief Executive Harry Copperhead delivered the show's keynote address, explaining to attendees that he was "the new kid on the block" and was "not responsible" and "could not be blamed" for Commodore's past difficulties. Uzi-equipped bodyguards kept a close watch on the nervous audience during the five-minute speech, and at its conclusion a tear-gas barrage cleared

Topeka hometown natives *Newt Trek* made everyone feel right at home, cranking out tasty breakfast treats on the new improved 4-slot **Video Waffleiron**. *Newt Trek* PR marketing magnate Paul "Hollywood" Montgrumbly took advantage of the hometown show to announce



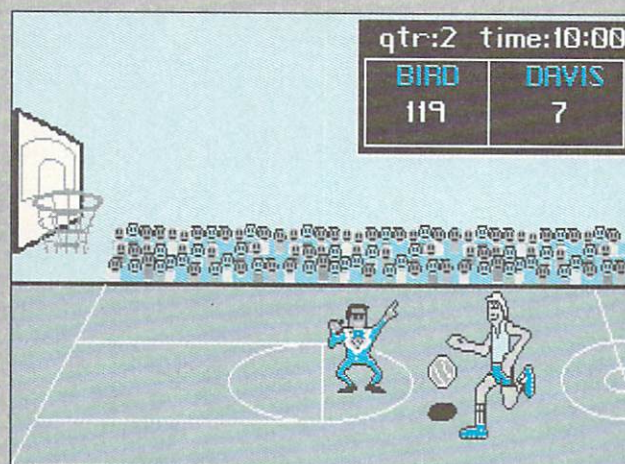
Lots of exciting new hardware and software was shown at Commo-EXPO Topeka, and I'm sure that it would have been even more exciting if the hall had been wired for electricity. As it was, the excitement level peaked only fifteen minutes after

But back on the exhibit floor, attendees were shown the packaging and documentation for many exciting new products. *ShutUp! Software* was displaying their exciting new arcade adventure by Jim Socks and Piechart von Windshield, **20,000 Bucks Under The 'C'**. *Maximus Software* announced a sequel to their latest game, to be called **Sin City**. "Half the dweebs who bought our last game thought that was the title of it anyway, and we got lots of requests

The developer who had come the furthest was undoubtedly the Australian purveyor of **Hokey Poker**, who managed to accumulate the top income figure of the show with two new games called **The Shell Game** and **Three Card Monty**. As near as this re-

Describing the show as "cozy and friendly," show promoter Alec Lipgloss told *CHUMP! Amiga* that Topeka CommoEXPO provided "a tremendous opportunity to spread the Commodore community spirit to the heartland of America." A nearby exhibitor commented that the show was "more like a funeral" and provided "another opportunity for Lipgloss to make a quick buck." I unfortunately had to take my leave of CommoEXPO before the ensuing fistfight was resolved.

GAMES



by "Magic" Johnson

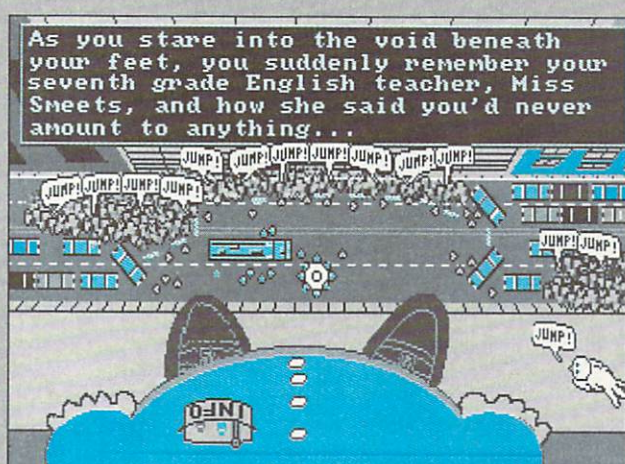
Larry and I go back a long way: as rivals in the 1979 NCAA finals and now 10 years in the NBA; and as friends. So when Epix asked me to review the latest installment of the continuing *One on One* series, I jumped at the chance.

At last Larry is pitted against an opponent who doesn't make him look sick on the basketball court. Larry's size, strength and shooting skills make Sammy look like a fish out of water.

But Sammy does have his talents, too. Using either the joystick or mouse you can make Sammy tapdance and tell jokes to crack Larry up and leave him rolling on the floor while Sammy scores uncontested layups. And don't forget that Sammy is a consummate actor. He can draw the questionable foul calls on Larry every time. I almost managed a 12-point comeback after getting Larry to foul out in the third quarter.

Friends and fans have suggested that I should be the natural choice to go against Larry in *One On One IV* but I don't think so. I don't need the money or more publicity. Besides, Larry is getting too old to play me. And after he retires, who else can they go to? Bill Laimbier?

Come to think of it, Rodney Dangerfield would be a formidable challenge...



by Irving Bozo

Jumper has elements of arcade action, strategy, and interactive roleplaying games all in one. Naturally the Amiga's superior graphics, animation, and sound all help to lift *Jumper* to new, albeit temporary, heights of software achievement.

The storyline is simple, but gripping and pungent: you are a depressed suicidal about to jump from an 82-story downtown office building. Via the keyboard you can observe the crowds below, or cast your eyes toward the heavens in search of divine guidance. As you await the final impulse to jump, various characters appear who try to coax, coddle, or con you into coming inside off the ledge. It might be a drunk asking if he can have your coat or shoes first. Or a hardboiled cop who asks you to hurry up and get it over with so he can go eat lunch.

When you do finally decide to jump, the incredible animated "flight" sequence puts even *Interceptor* to shame. There's even an indescribable "must hear" digitized 'splat!' sound when you hit solid ground. (Only Amiga!) Scenery disks are available so that you can jump off the Golden Gate Bridge, the Sears Building, or the even the World Trade Center.

For me, as I dictate my last computer software review from this ledge, *Jumper* has been something of a revelation. Let's see INFO Magazine make fun of me nowwwwwww.....

TYPE-IN

SICchecker

```
REM SICCHECKER
REM COPYRIGHT 1989
REM CHUMP! AMIGA
DIM check$(8)
FOR x = 1 TO 8
  READ check$(x)
NEXT x
DATA "ain't ", "shure ", "mispell ", "Tuscon ",
"arkive ", "wonderfull ", "Commadore ", "Ameega "
FILES
INPUT "File Name to Check: "; title$
OPEN title$ FOR INPUT AS 1
OPEN title$+".ok" FOR OUTPUT AS 2
loop1:
z$ = ""
```

BUG SWATTER:

WE'RE BACK!

It takes more than bankruptcy and a class action suit to keep us down!

It's true! We've managed to beg, borrow, and, frankly, steal enough software and hardware to open our doors for business again! It's a new address, a new company name, and a whole new line of products. (Actually, most of it is the same old stuff with new names to fool the judge, but, hey, it sold before!)

DISK XEROX: The KING of PIRATE COPIERS!!!
Copies 105% of SOFTWARE for ANY COMPUTER!!!

Just listen to what the reviewers had to say:

"Undoubtedly one of the best [jobs of fleecing the public] I've ever seen -INFO"

"Disk Xerox is [a] gargantuan [disaster], and should be [banned] for sale worldwide! -AmigaWhirled"

"Such [*abysmally low*] quality makes me want to stand up and [*vomit! I'd*] applaud [*if the crooks who wrote this turkey dropped over dead*]! -Amiga Century"

Note: Don't forget to edit out the stuff in brackets before we print this ad! -Richie

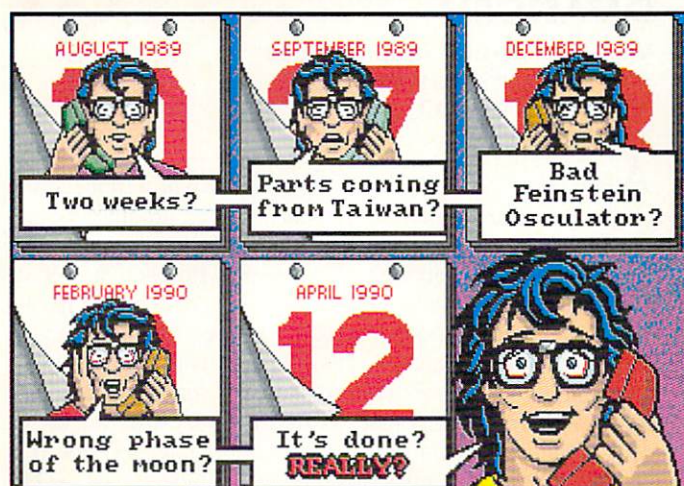
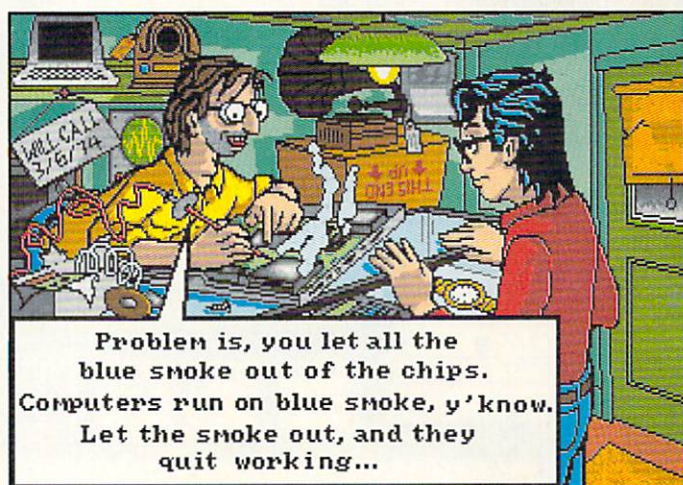
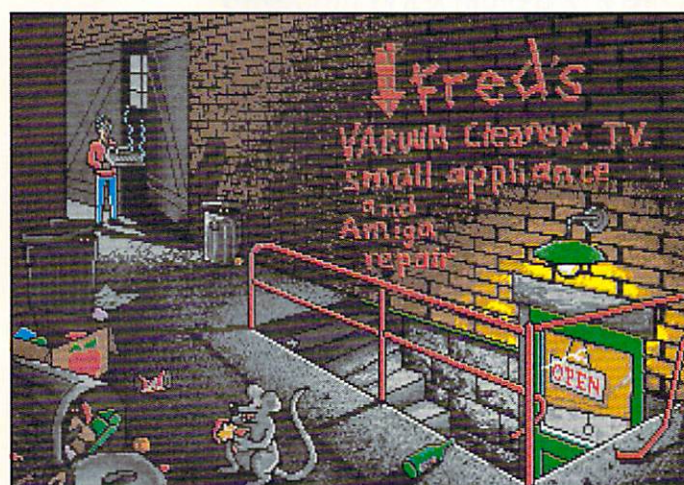
ORDER NOW!

ShadowSoft
666 Antichrist St.,
Battlestar WA 00005

BRYCE

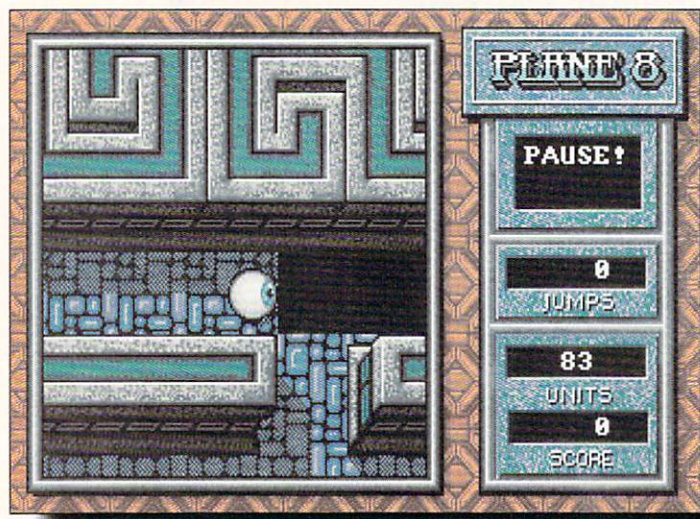
BRYCE'S AMIGA DIES

ART: Gregory Conley
CONTINUITY: Mark R. Brown



Gregory Conley can be contacted by writing: Gregory Conley, 17320 Laverne Avenue, Cleveland, Ohio 44135

GAMES FOR YOUR AMIGA



MIND-ROLL

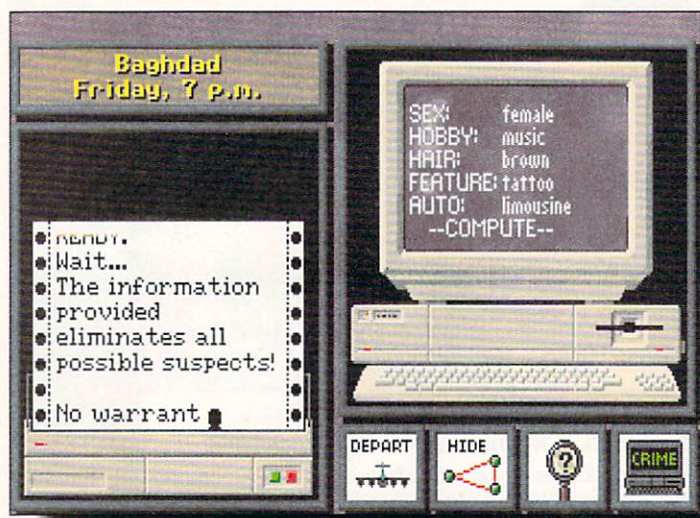


Epyx

600 Galveston Drive
Redwood City, CA 94063
415-366-0606

Related to the classic *Marble Madness*, *Mind-Roll* is a collection of ten different games which have you rolling an eyeball (!) through mazes or bouncing it across platforms. The sequences are very well done, if somewhat puzzling to figure out at first. I could, however, do without the completely uninteresting first game, where the ball simply rolls down a long, straight path. The graphics are first-rate, imparting a somewhat somber atmosphere. *Mind-Roll* won't, I think, have a wide appeal, but if you like small, intricate puzzles, you'll like it.

- TM



WHERE IN THE WORLD IS CARMEN SAN DIEGO?



Broderbund

17 Paul Drive
San Rafael, CA 94903
415-492-3500

The Statue of Liberty's Torch is gone! This could only be the work of Carmen San Diego's gang. Hone your powers of deductive reasoning and expand your knowledge of geography using the *World Almanac* (included) as you track the thieves around the world. Gameplay is a fun combination of graphic adventuring, mystery, trivia, and action. And with ten different suspects and thirty cities to explore, it's a different game every time you play. *CSD* is a "must have" for trivia buffs and mystery fans. It's also the best educational game ever written.

- JKC



DATASTORM



Visionary Design Technologies

45 Whitehorn Crescent
North York, ON M2J 3B1 Canada
416-497-0833

After spending hours with *Datastorm*, I now understand why the arcade version of *Defender* sucked up quarters like an anteater tonguing up termites. The movement and scrolling are fast enough to give my stomach a jolt of motion sickness now and then. It's deceptive in its simplicity, with uncomplicated graphics that are made effective by the blistering speed of the play. The object of the game is to ferry little pods across a series of boundary lines. The catch, of course, is that they are the objects of much attraction to a multitude of invading aliens. If you're a *Defender* fan, don't miss this one.

- TM

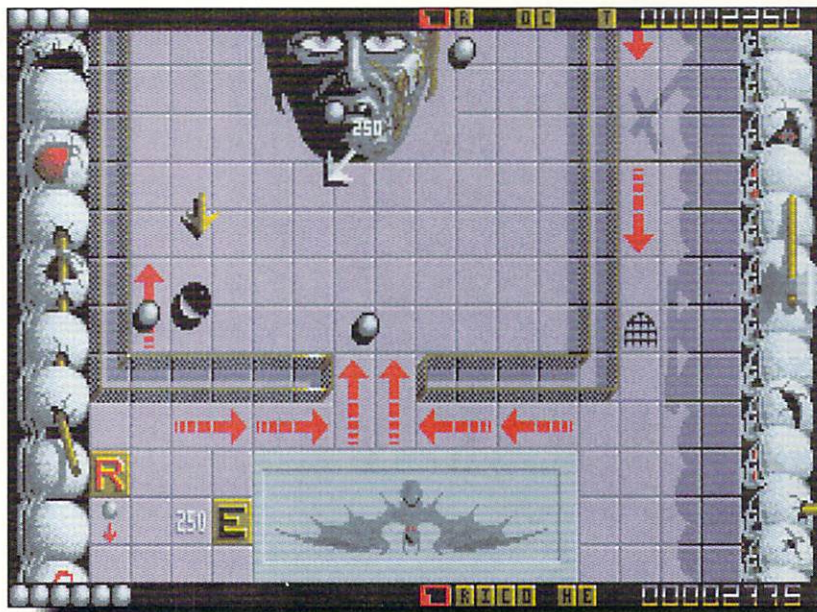
GAMES FOR YOUR AMIGA

We expect razzle-dazzle from Psygnosis and *Ballistix* delivers it in abundance. The game has drawn elements from pool, foosball, marbles, air hockey, and pinball, and then combined them with plenty of its own ideas to make it a standard-setter in arcade games.

The idea is to knock a ball into your opponent's goal by shooting marbles at it, and there are all sorts of obstacles and options to make the game both more interesting and more challenging. While it has a very playable single player mode, *Ballistix* doesn't really shine until you go head to head against another human.

The graphics are crisply drawn, perfectly shaded, and thoroughly delectable. From a programming standpoint, what happens on the screen is nearly impossible to comprehend: there are a multitude of balls screaming around, two players to keep tabs on, scores to keep, and some pretty fancy scrolling to name a few. It's a massive job, especially considering that there are 50 levels in single-player, and 80 levels in two-player mode.

- Tom Malcom



BALLISTIX



Psychapse/Psygnosis

2150 Executive Drive
Addison, IL 60101
312-620-4444



LORDS OF THE RISING SUN



Cinemaware

4165 Thousand Oaks Blvd.
Westlake Village, CA 91361
805-495-6515

Lords of the Rising Sun takes wargaming to new levels of detail and interaction. The setting is Medieval Japan, a legendary time when Samurai culture and the way of Bushido was in full flower.

The game's origins are firmly rooted in *Defender of the Crown*, but the concept has been refined and expanded. It is lavishly complex and will take long hours to learn to play well. Sorting out the large cast, learning which lord belongs to what castle, and who's allied to whom is no easy feat. The animated map on which movement of armies is controlled is very detailed and beautifully done.

Of the arcade sequences, I particularly like the way battles are handled. Rather than push or drag soldiers around, you instead cause them to be attracted to or repelled from a direction, which gives the feel of leading your warriors into the battle. Seiging a castle is also very good, though I would rather bypass the ninja attack where you must protect yourself from flying shurikens.

Wargames should all be this well done, and *Lords of the Rising Sun* will go a long way toward popularizing the genre. - Tom Malcom

GAMES FOR YOUR AMIGA



AIRBALL

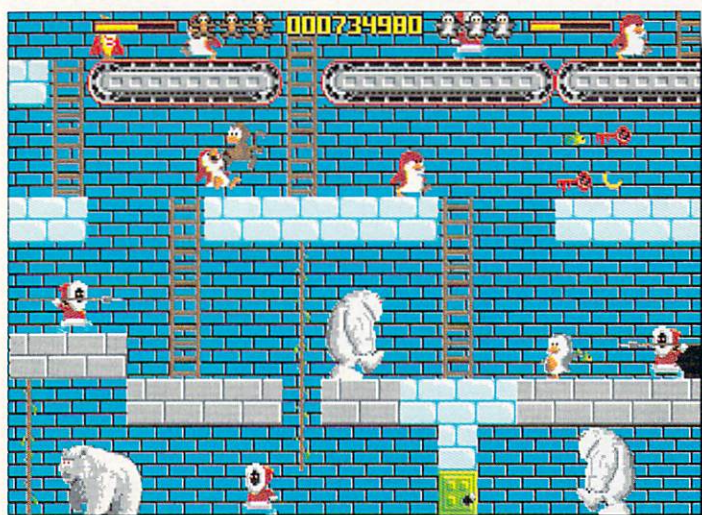


Microdeal

576 S. Telegraph
Pontiac, MI 48053
313-334-8729

Airball is a whole level of evolution beyond previous rolling marble games. It has you guiding and bouncing an inflatable ball (which is as easily damaged as a soap bubble) through 250 rooms of a castle, avoiding obstacles and anything that could cause a puncture. Play is fast and moving from one room to another nearly instantaneous. The soundtrack is catchy, but I do wish the obviously IBM graphics had been redone with more detail for the Amiga. Still, *Airball* will have you giving your joystick frequent workouts.

- TM



AUNT ARCTIC ADVENTURE

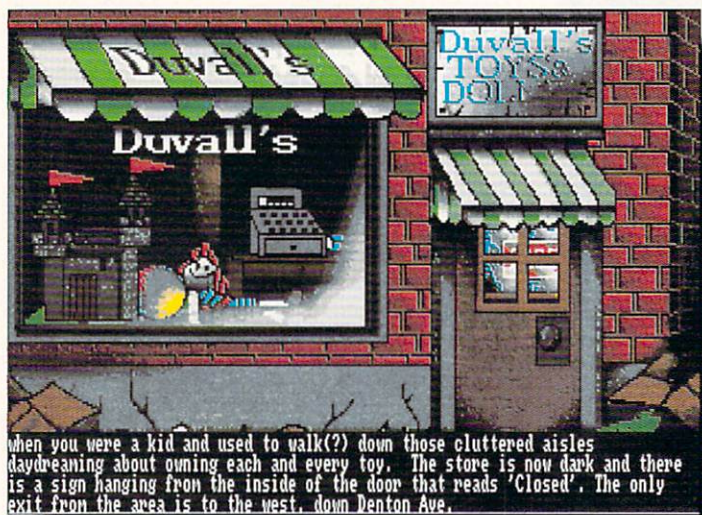


Mindware Intl.

110 Dunlop St. West, Box 22158
Barrie, ON L4M 5R3 Canada
705-737-5998

This arcade adventure sends Charlie Chimp and his friend Penguin Pete off to rescue Charlie's kidnapped aunt in -- you guessed it -- the Arctic. There are fifty levels of nasties to avoid and many puzzles to solve. The graphics are almost too cute, and the music is bright and snappy. Joystick control is smooth, and the scenery scrolls across and up and down seamlessly. I especially like the way Charlie and Pete sail rather than plummet when you jump them off the edge of a subterranean precipice.

- JKC



THE TWILIGHT ZONE



First Row Software

3624 Market Street
Philadelphia, PA 19104
215-662-1400

First Row has released, after seemingly interminable delays, its much-ballyhooed computer game based on the licensed title of Rod Serling's much-beloved TV series. It has turned out to be a second-rate illustrated text adventure with little to do with Serling's tangential vision of the universe. As illustrated adventures go, *Twilight Zone* isn't all that bad; it just doesn't come close enough to living up to our expectations. Personally, I'd rather watch *The Twilight Zone* on TV than play this game. No, I'd rather watch anything on TV than play this game.

- TM

GAMES FOR YOUR AMIGA

JUG

Microdeal

576 S. Telegraph
Pontiac, MI 48053
313-334-8729



The first level of this arcade gem has a spikily metallic look and a compelling alien-ness to it. In the same genre as *Thexder* and *Baal*, *Jug* has you maneuvering around a series of mazes collecting objects while defending yourself against all manner of fast-moving enemies. I particularly like not having to destroy them all to get to the next level; it's often better to avoid them altogether. The game has enough twists to give it an original feel, and the play is intriguing enough to keep you coming back for more.

- TM



RAMPAGE

Activision

3885 Bohannon Drive
Menlo Park, CA 94025
415-329-0800



Ever had more sympathy for movie monsters than movie heroes? Then *Rampage* is just the game for you. It lets you be one of three monsters and gives you the power to smash a city into the ground one building at a time. The Amiga version of the arcade classic is better than the coin-op original, with lots of fun little touches (like a snowy-screened TV that's revealed as you destroy a building). Of course the militia is trying to stop you, but that's okay - they make delectable snacks.

- TM



OPERATION: CLEANSTREETS

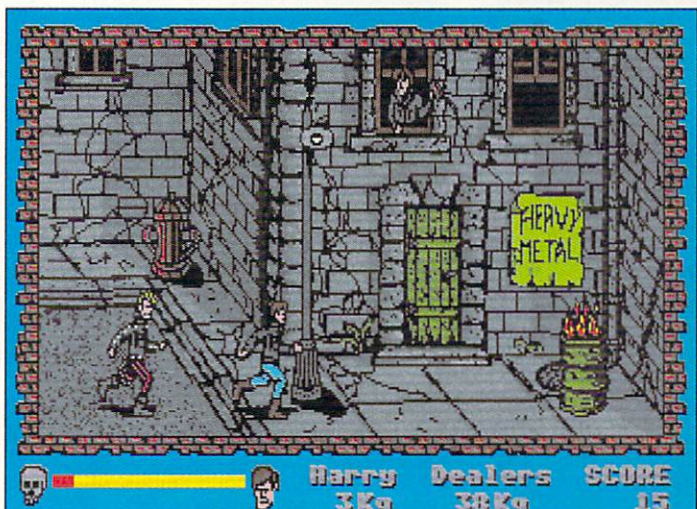


Broderbund

17 Paul Drive
San Rafael, CA 94903
415-492-3500

Capitalizing on the anti-drug movement, this ill-conceived game is not only ugly to look at, but obnoxious to listen to as well. You are "Cleanup Harry," assigned to rid the streets of drug dealers and their wares. You're armed only with your fists, feet, and virtue, while the bad guys come at you with everything from knives to chainsaws. Nobody ever said games of this ilk had to be realistic, but this goes beyond fantasy into the absurd. The only thing I like about it is that I never have to play it again.

- TM



GAMES FOR YOUR AMIGA

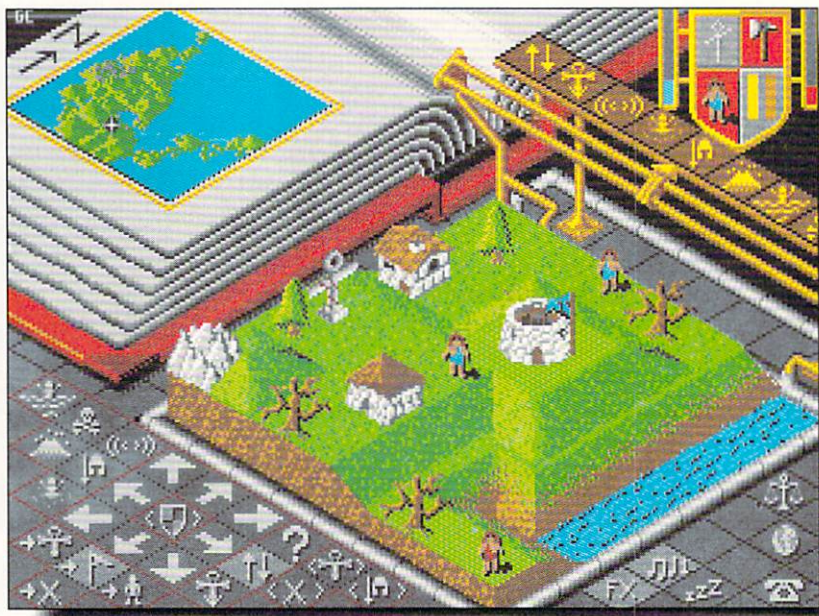
A top contender for GAME OF THE YEAR, this ground-breaking (literally!) game artfully mixes the best elements of simulation, strategy, and adventure gaming in an irresistible package which lets you play... well... God!

In the beginning, *Populous* lets You create the earth, forming it into any landscape You wish, whether it be mountainous, oceanic, swampy, volcanic, or flat. Upon this land which You have wrought, spring forth the people of Your mythical world. There are two tribes: the Good and the Evil. You can exert a great deal of divine intervention (especially upon the Good tribe), but the little people do demonstrate their own will as they multiply, settle the land, and smite their enemies. (You willing, of course.)

Populous has divine graphics, a heavenly player interface, and devilishly good sound. There are options for two players (this is obviously not a monotheistic game), and provision for play across multiple machines via modem.

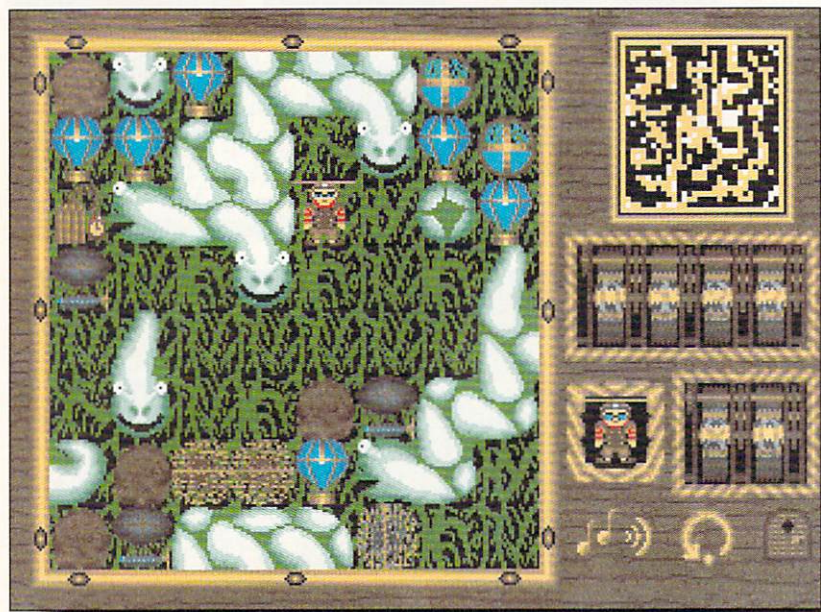
A truly great concept and magnificent implementation. Amen.

- Tom Malcom



POPULOUS PREVIEW

Electronic Arts
1820 Gateway Drive
San Mateo, CA 94404
415-571-7171



PROSPECTOR In the Mazes of Xor ★★★★★

Logotron/Eurosoft
70 Woodfin Pl., Suite 400
Asheville, NC 28801
704-255-7590

Easily the best implementation of the *Boulder Dash* theme yet, *Prospector* features tasty graphics, a driving soundtrack, and preminent playability.

The object of the game is to guide two characters through a series of mazes collecting blue balloons. The mazes are cunningly devised puzzles, filled with obstacles and dangers. Having two characters to use adds a dimension to the play; one man can sometimes free the trapped second, and some puzzles require using both. The puzzles themselves remind me of the old Chinese box puzzles, where you must move panels in a specific order to open the box. *Prospector* uses much the same idea. It will take many tries to figure out the puzzles, but the satisfaction when everything works will bring a smile to your face. There are 30 screens included, and there is also a construction mode so you can design your own mazes and puzzles.

I like games that require some thought, and the visual puzzles presented by *Prospector* will alternately frustrate and delight you. And its nonviolent theme makes it a great game for the entire family.

- Tom Malcom

GAMES FOR YOUR AMIGA

Much more than a mere game, *Sim City* is a new concept in software, a system simulation. It is an elaborately detailed re-creation of the life and growth of a city.

While you can get a feel for how *Sim City* works by fiddling with one of the real-life cities on the disk, the primary aim is growing cities of your own. Starting with a small community, you must judiciously decide what to spend tax dollars on in order to provide for the citizens and keep them happy.

The halfbright graphics are delightful, showing an overhead 3D view of your city, with the elements carefully drawn to show maximum detail. For example, if you watch closely, there will be periodic activity in the stadium, and the miniature bridges open and close. You can also rain destruction on your creation by setting off earthquakes, tornados, and fires. You can even let a big lizard loose to stomp it into rubble, though I find I do that much less now that the initial novelty has worn off. *Sim City* isn't perfect; the scrolling is a little jerky and the animation needs a higher frame rate, but the program is so absorbing and groundbreaking that I'm willing to overlook the relatively minor flaws of this first version.

Sim City, along with the more game-oriented *Populous* [see preview opposite], is a radical departure from what entertainment software has been in the past, blurring the line between gaming and reality. Indeed, it is gaining considerable attention as a basic introduction to city planning. *Sim City* moves away from the traditional win/lose idea of gaming, concentrating instead on problem solving and the growth process. More fascinating than an ant farm and more fun than a cage full of gerbils, but with none of the messy drawbacks of either, *Sim City* will engross you for hours (and weeks and months) at a time. I found that the deeper I got into it, the more I actually cared about what happened to my city.

I have no doubt we can expect to see many more sys-sims in the future. Since the rules exist only inside the computer, the simulation could be as abstract as an alien ecological system or as firmly rooted in reality as the historical westward expansion of the United States, and the scale could range from the galactic to the microbial. In a gaming world that has become ever more predictable, violent, and mindless, *Sim City* offers a resplendent new vision of what is possible, a vista of worlds limited only by your imagination. - Tom Malcom

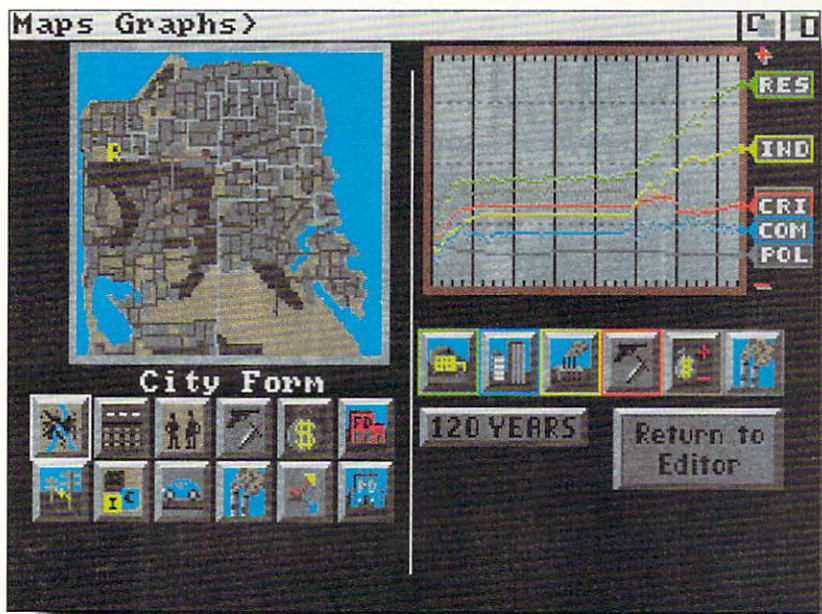


SIM CITY

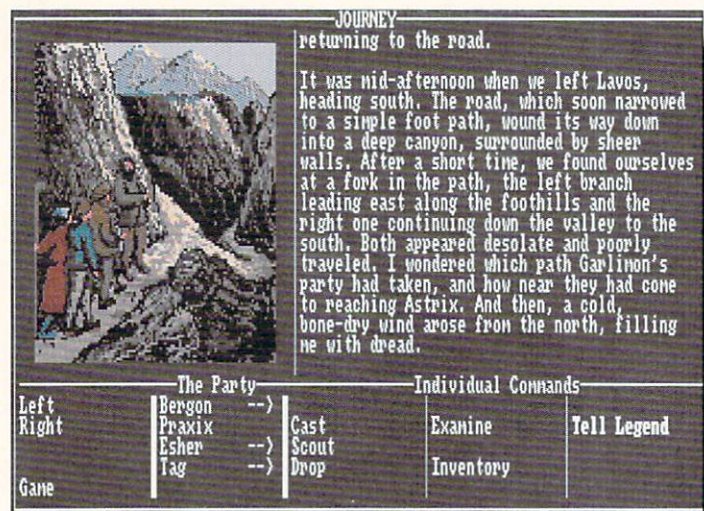


Maxis

953 Mountain View Drive
Lafayette, CA 94549
415-375-6434



GAMES FOR YOUR AMIGA



JOURNEY



Infocom/Mediagenic

3885 Bohannon Drive
Menlo Park, CA 94025
415-329-0800

In a dramatic departure from Infocom's tradition of strictly text adventures, *Journey* combines beautifully detailed graphics and text in a new and appealing genre called 'role-playing chronicles.' You advance through the quest by choosing options via mouse and menu that guide your party's strategies and move the story forward. The elimination of typing in commands keeps the frustration level low. There are no right or wrong choices - each move advances the storyline one way or another. This is the adventure genre for people who tire of endlessly typing "get brass lantern."
- JKC



DINO-WARS

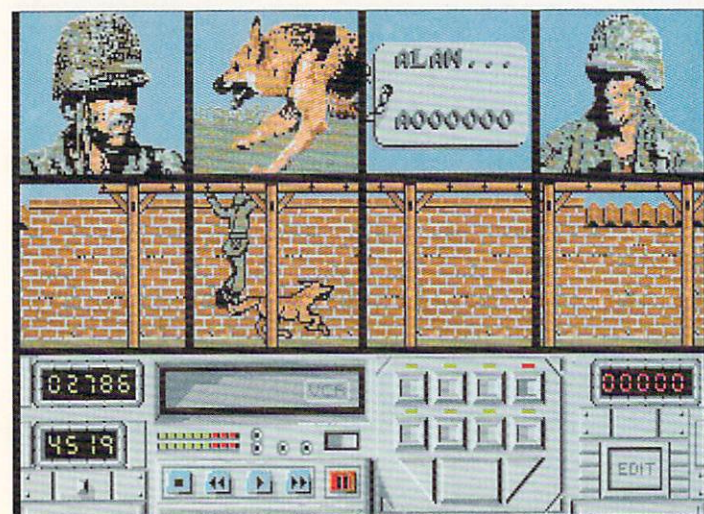
PREVIEW

DigiTek

8910 N. Dale Mabry, Suite 37
Tampa, FL 33614
813-933-8023

We humans have a long-standing fascination with dinosaurs and DigiTek is making a game to appeal to our insatiable curiosity. The screens we've seen look like it's going to be fun as well as informative. The game will feature an online encyclopedia which will provide descriptions of many of the creatures and their habitats. Scheduled for late summer release, *Dino-Wars* itself is a combination of arcade and strategic wargame-like sequences, where the big lizards battle over territory.

- AF



COMBAT COURSE



Mindscape

3444 Dundee Road
Northbrook, IL 60062
312-480-7667

Militaristic games usually leave me cold as Frostbite Falls in February, but this French import from Infogrames has enough interesting innovations, to make it hold my attention. It's essentially a military training simulator with lots of options. It includes a VCR-like playback mode so you can spot your mistakes, as well as a construction set for creating your own scenarios. The main problem is that the joystick movements for controlling your soldier are too complex and unintuitive. If you like military type games, this is one of the better ones.

- TM

GAMES FOR YOUR AMIGA

FIENDISH FREDDY'S BIG TOP O' FUN

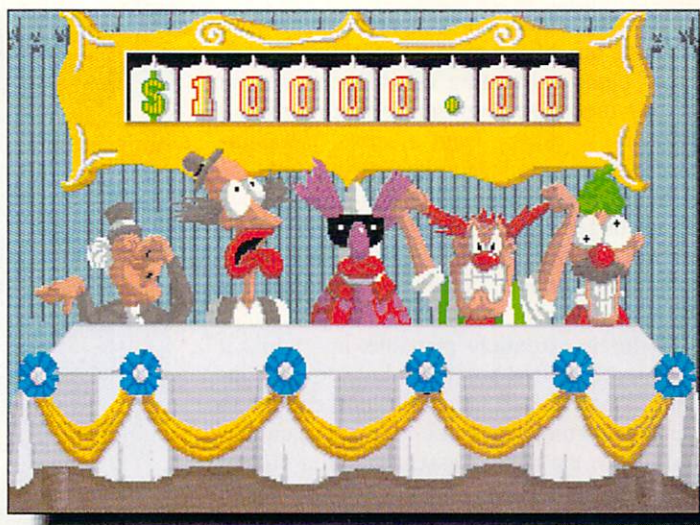
Mindscape

3444 Dundee Road
Northbrook, IL 60062
312-480-7667

PREVIEW

Being one of the few people for whom circuses hold little appeal, I have a warped liking for the idea of an evil clown. The premise of the game is to perform a series of circus-type events: juggling (objects include the interesting combination of babies and knives), tightrope walking, getting shot out of a cannon, trapeze, high dive, and (my favorite) knife throwing. All the while, Fiendish Freddy is trying to thwart your success. My kind of clown.

- TM



LIGHTFORCE

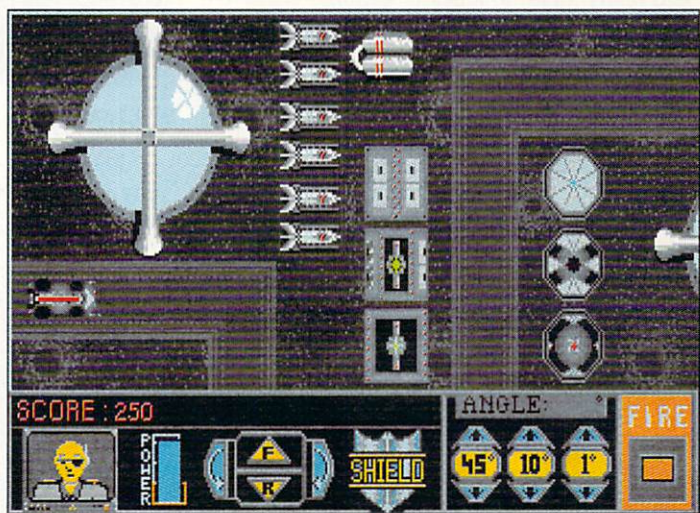
TSA Media

PO Box 291
Claremont 6010, Western Australia
011-619-384-3047

PREVIEW

Wulf Prendergast and his band of Aussies are coming out with this unusual strategy-oriented game. The player has control over two vehicles, one which fires photon balls and another which carries a mirror. The object is to destroy enemy military installations before they destroy you. The catch is that the fireballs often have to be bounced off the mirror, thus requiring considerable skill in aiming. The two disk set will even include tutorials on optics.

- TM



ARTEMIS

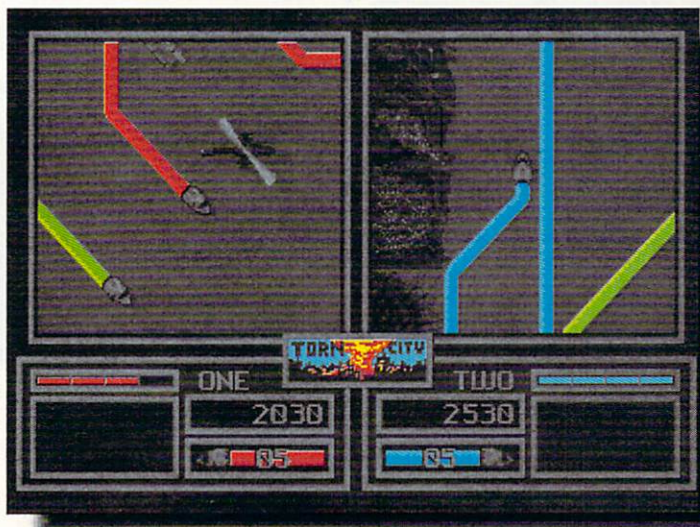
Visionary Design Technologies

45 Whitehorn Crescent
North York, ON M2J 3B1 Canada
416-497-0833

PREVIEW

Descended from *Snake* via *Tracers*, *Artemis* adds the ability to move your player diagonally as well as up and down and side to side. The preliminary play screens we've seen are scenic rather than plain grids, which will doubtless add a more freeform feel to the gameplay. A two player split-screen mode is also a new element in this type of game.

- AF



GAMES FOR YOUR C64

Cute without being saccharine, *Chomp!* is one of the most delightful games to come swimming down the bitstream in a long time. The premise has you as a small fish trying to escape from a series of aquariums. If you can manage to keep swimming, eat and avoid being eaten, you will grow into a healthy, larger fish and can then leap through the air to the next aquarium. If you can make it through all the tanks, you can escape to a river and freedom.

Chomp! is extremely playable, and while it is admirably suited for the whole family, including small kids, it is just difficult enough to keep you coming back for more. Particularly gratifying is the game's essentially non-violent theme; it's proof that a great game doesn't need violence to be fun.

The many small touches in *Chomp!* make it a rare pleasure. For example, a cat periodically reaches its paw into the tank and tries to catch you. If you linger too long in one tank, a shark will appear and try to devour you. The only thing I wish were better is the sound.

Buy your family a copy of *Chomp!* You'll be glad you did.
- Tom Malcom

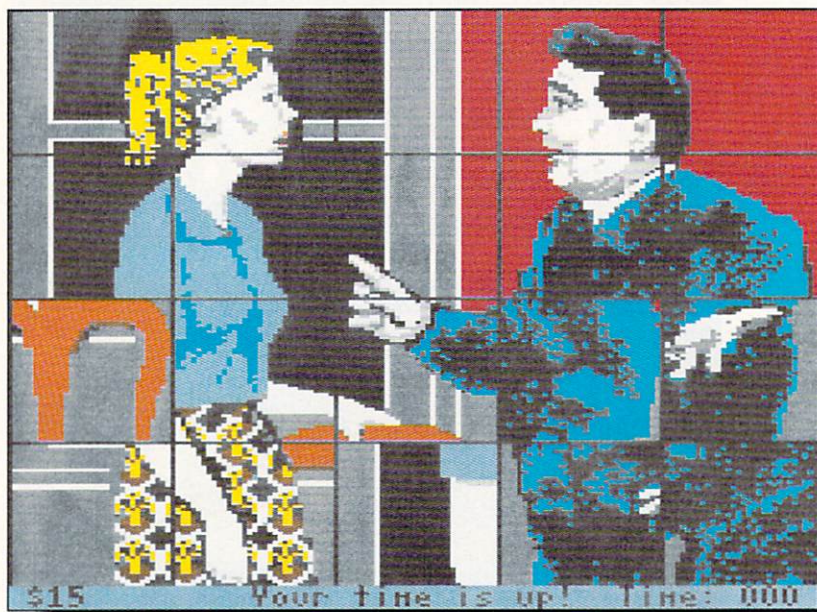


CHOMP!



Cosmi

431 North Figueroa
Wilmington, CA 90744
213-835-9687



THE HONEYMOONERS

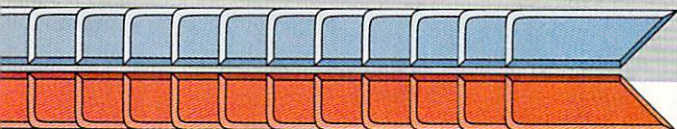


First Row Software
3624 Market Street
Philadelphia, PA 19104
215-662-1400

A perfect example of marketing gone amok, *The Honeymooners* has been heavily promoted for the last year, with continually postponed release dates. Now I understand why First Row has been reluctant to ship it. The game is so bad I fully expect angry mobs of Jackie Gleason fans to storm First Row's headquarters. I might even join them.

The only vaguely good things about this game are the interlude screens between the three sub-PD-standard arcade sequences. The first game has you driving a bus around the streets of New York picking up passengers. The graphics are bad and the sound worse. The second sequence has Norton plugging leaks in the sewers in a maze game. The third segment has you trying to rearrange the pieces of a jigsaw puzzle. Enough already. There is also a *Honeymooners* trivia game that appears between the arcade sequences, but that's hardly enough to save this turkey.

It's obvious that First Row is trying to imitate Cinemaware's successful personality games. It's too bad they didn't have the skill to pull it off. As Ralph Kramden would say, "To the moon, First Row!"
- Tom Malcom



GAMES FOR YOUR C64

HOLE IN ONE



DigiTek

8910 North Dale Mabry
Tampa, FL 33614
813-933-8023

Using the same intuitive stretched-line play system as the Amiga version, this miniature golf game plays well, and I especially like the pixellated transitions between holes. There are two courses included, but, unforgivably, you must equal or break par (and in too many cases, par is a hole in one) before you can play the second course. And if there are multiple players, they all have to break par. The game is worth playing, but should have shown a little more consideration for those playing it.

- TM



BATTLETECH

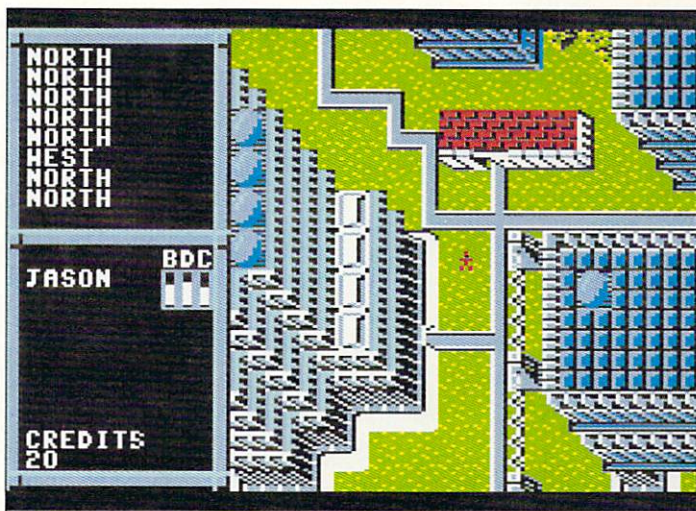


Infocom/Mediagenic

3885 Bohannon Drive
Menlo Park, CA 94025
415-329-0800

Battletech is among the first graphic adventures released by Infocom. The storyline: centuries of warfare have reduced civilization to several feudal houses locked in a struggle for control of the Star League, and you are a young 31st-Century warrior. Animated Japanese-style cartoons and battle sequences illustrate the deadly combat of robot-weapon Battle Mechs. Infocom has paid lots of attention to detail -- individual weapons even have different sound effects. *Battletech* plays smoothly and quickly, but you will have to complete an entire training course in Mech warfare to handle these robots easily.

- JKC



HILLSFAR



SSI/EA

1820 Gateway Drive
San Mateo CA 94404
415-571-7171

Hillsfar is the latest installment in the continuing series of Advanced Dungeons & Dragons graphic role-playing adventures. In this one, you explore the kingdom of Hillsfar, meet its colorful denizens, participate in its sports, and undertake a quest or two along the way. *Hillsfar* combines the traditional city adventuring method of "hunt and peek" with exciting action sequences such as equestrian and archery events, gladiatorial combat, and maze running. Each game changes to suit your character's class, and you can transfer characters from *Pool of Radiance*. *Hillsfar* is rich in depth and detail with lots of adventure and action.

- JKC





GAMES FOR YOUR C64



THE DUEL: TEST DRIVE II

★★★★

Accolade

550 South Winchester Boulevard
San Jose, CA 95128
408-958-1700

Released almost simultaneously with the Amiga version, this sequel to Accolade's hit car racing game is better than the original, and drives just as well as its 16-bit sibling (though the steering on both is a bit touchier than I would like). A disk of scenery running the length of California is available if you're into marathon driving, and there's an additional disk of cars as well. The auxiliary disks are, as they say, sold separately. Worth your money if you like to race.

- TM



SKY SHARK

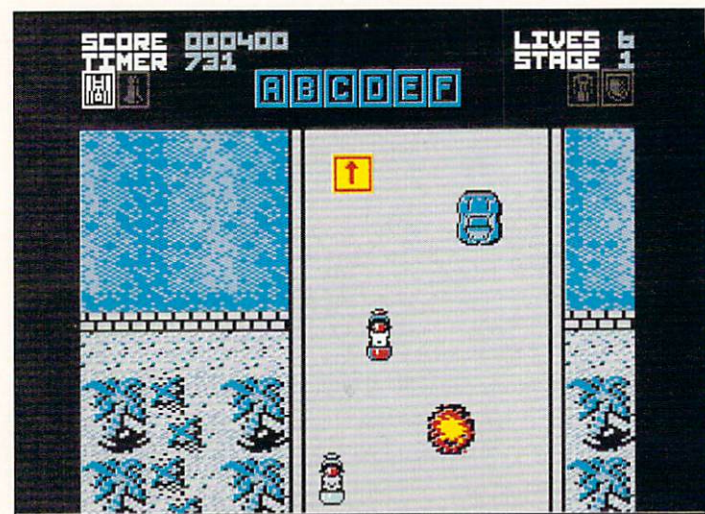
★★★

Taito

267 West Esplanade Plaza, 2nd Floor
N. Vancouver, BC V7M 1A5 Canada
604-984-3344

I have to give Taito credit for knowing how to do arcade shoot 'em ups. They may all be virtually the same game with interchangeable scenarios, but they play smoothly and are very fast. *Sky Shark* has a WWII setting, but with a change of backgrounds and sprites it could be in outer space. One thing arcade gamers don't want is a delay between games in a session; with *Sky Shark* you're back at the start almost as soon as your last life is gone. If you like mindless action, *Sky Shark* will give it to you.

- TM



ACTION FIGHTER

★★★★+

Sega/Mindscape

3444 Dundee Road
Northbrook IL 60062
312-480-7667

You drive, you shoot, you crash, you drive some more. There are a hundred games like *Action Fighter*, and it is no worse than most. The action is fast, which is a must in a driving game, but sound effects have been sacrificed for a music soundtrack. I would have preferred the sound effects. The graphics are relatively bland and lack detail. Still, there's enough action here to keep you occupied, and some variety once your vehicle evolves into a flying machine. Joystick response is good, and the game has a nice "feel." Good fare for the action-oriented.

- MRB

ANNALS OF ROME

PSS/EA

1820 Gateway Drive
San Mateo CA 94404
415-571-7171

★★★★+

Like all wargames, *Annals of Rome* is a struggle to conquer territory. The individual attributes of generals, civil war, overtaxation, the mortality rate, and inflation are all complicating factors. There is even an algorithm hidden somewhere that factors in "Romanization" of occupied areas. Play is relatively simple, but strategies are complex, as befits a good wargame, and there is an excellent short history of the Roman Empire in the manual to give you a feel for the historical setting. There's little here in the way of flash, but some interesting gameplay and educational value.

- MRB



SKATECRAZY

Mastertronic

711 West 17th, Unit G
Costa Mesa, CA 92627
714-631-1001

★★★★+

SkateCrazy is made up of two challenging courses featuring jumps, cones, flags and, for a touch of social responsibility, snatching up litter as you zoom along. Points are given for successful maneuvers, but the all-important 'Street Cred' is awarded to only the most daredevil stunts. Skating Freddy along with a joystick is smooth and easy -- a lot less painful than the real thing. I particularly liked the realistic way Freddy's arms pump as he speeds up, and the sound effects as he screeches to a halt. If you're like me and spend more time on your derriere than on your wheels, then *SkateCrazy* is the game for you.

- JKC



CALIFORNIA PRO GOLF

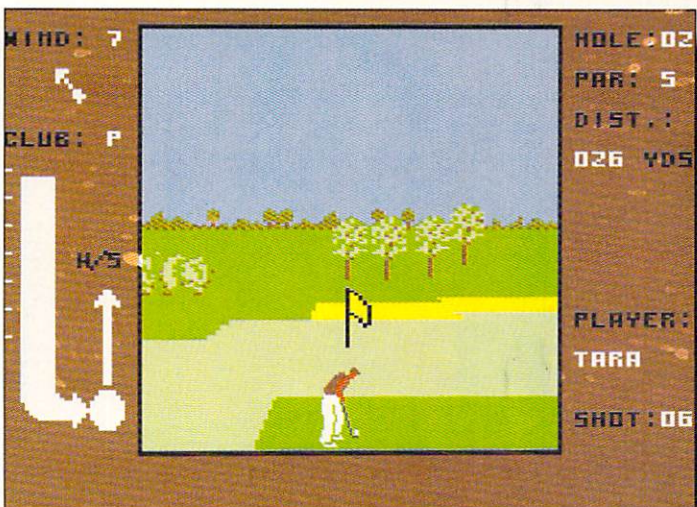
Mastertronic

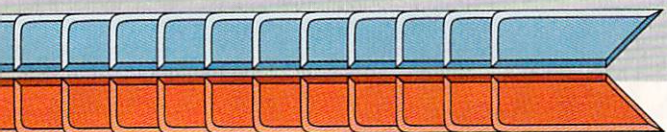
711 West 17th, Unit G
Costa Mesa, CA 92627
714-631-1001

★★★★

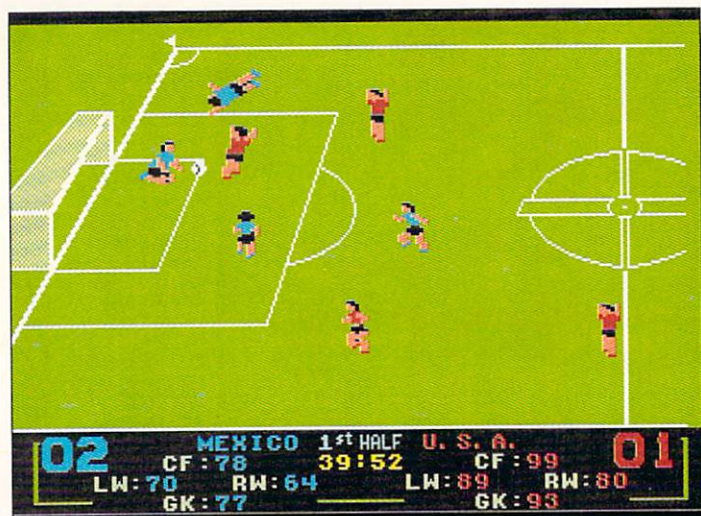
While there's no reason not to, using ragtime music as an intro to this golf simulation strikes me as pretty strange. So does the play system. It uses a power bar indicator controlled by a firebutton click, and then a wiggling arrow is activated to determine hook or slice. And that's the downfall of the game: stopping the arrow in the right spot is more a matter of chance than of skill. The graphics are minimal but acceptable, but the sound effects are poor, and the play is too slow. The game is a decent effort, but there are much better golf games.

- TM





GAMES FOR YOUR C64



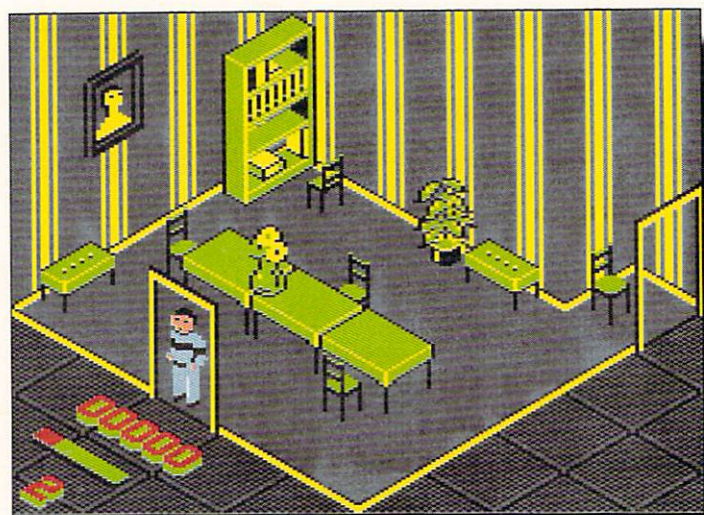
INTERNATIONAL TEAM SPORTS

Mindscape

3444 Dundee Road
Northbrook, IL 60062
312-480-7667



I don't think this collection of games will be of much interest to anyone but hardcore sports junkies. You know the ones I mean - if it's a sport, they'll watch it. The events are soccer, swimming relay, track relay, volleyball, and water polo. The team setup process is interminable, and I've had problems getting the menus to function properly. The events aren't badly done, but you aren't given enough control over them to make the play exciting. I'd rather play stand-alone versions of the individual events. - AF



DEVON AIRE

Softek/Epyx

600 Galveston Drive
Redwood City, CA 94063
415-366-0606



Devon Aire is an innovatively structured, colorful 3D graphic adventure. As the master gem thief Devon Aire, you have the easy-sounding job of locating jewels lost somewhere inside the maze-like Crutchfield Manor. But the more you explore, the harder it gets. You must dodge mutant pig-mice and killer canaries while looking in potted plants, stack furniture to search on top of bookcases, and guzzle juice to maintain your strength. Manipulating objects with the joystick takes practice, and if you're not quick enough, the peculiar pets will get you. This adventure is well worth a look. - JKC



JINKS

Hard Wired/Gold Disk

2179 Dunwin Drive #6
Mississauga Ont Canada L5L 1X2
416-828-0913

PREVIEW

Gold Disk is expanding into the game business, and *Jinks* will be one of the first titles in their new "Hard Wired" game line. This European import shows its origins in its catchy music and tasty 3D shaded graphics. However, unlike most European titles, which usually have an unimaginative "shoot-em-up" theme, *Jinks* combines some of the strategic aspects of *Arkanoïd* with a tasty scrolling playfield. The end result feels somewhat like a huge pinball machine. It's completely new, and I'm already hooked on the beta version Gold Disk sent us. Keep your eyes open for this one. - MRB

geoSTUFF

By Don Romero



GEOPROGRAMMER

GeoProgrammer is really three programs: an assembler, a linker, and a debugger, with *geoWrite* intended as the primary source code editor. Right away, faithful students of Jim Butterfield's many excellent tutorials should note that we're not in Kansas any more. A Linker? Isn't that Amiga stuff?

Any good machine language programmer has his libraries of equates, macros, and subroutines for merging into source code when needed. *GeoProgrammer* goes one better with a *.include* command that directs *geoAssembler* to compile separate *.included* files as part of the source. A *geoSym(bol)* file contains constant and variable equates for all the system values, memory locations, and GEOS Kernal routines normally used in GEOS programs. Hello "jsr GraphicsString," goodbye, "jsr \$C1A8."

But *geoProgrammer* giveth and taketh away. It makes many things easier (like importing graphics and icons with *geoWrite*'s paste command) but it also adds a level of complexity. For example, *geoAssembler* doesn't assemble complete ready-to-run programs. It creates ".rel" files which must be merged and resolved by *geoLinker* which then creates the completed runnable program file in accordance with a separate ".lnk" file.

GEODEBUGGER

The soul of *geoProgrammer* is *geoDebugger* (shown) - a sort of hybrid monitor, tracer, and symbolic disassembler with the kitchen sink added - dual displays, user definable macros, hot keys, and more - especially if you have a RAM expander (which every serious GEOS programmer should have anyway, right?) Without an REU present, the program configures itself as a Clark

```
Reg A .byte $00
Reg X .byte $00
>r
Acc X Y PC SP NU-BDIZC MemMap
$00 $00 $00 $C200 $FD 00000000 00110000
>pc c100
C100 4C D7 C2 > jmp $C2D7
>m
C100 4C > .byte $4C
>
>w
C100 4C D7 C2 > jmp $C2D7
C103 4C 1D CB jmp $CB1D
C106 4C C5 CB jmp $CBC5
C109 4C E0 CB jmp $CBE0
C10C 4C E9 CB jmp $CBE9
C10F 4C F1 CB jmp $CBF1
>fg
Flag B BRK flag %0
Flag D Decimal mode %0
Flag I IRQ disable %0
Flag Z Zero flag %0
>q
Exit to deskTop (y/n)? n
>
```



GeoPROGRAMMER \$49.95

Berkeley Softworks, 2150 Shattuck Ave., Berkeley CA 94704, 415-644-0883

Kent "mini-debugger" - still impressive and quite functional.

Where both *geoAssembler* and *geoLinker* have very simple point and click user interfaces, *geoDebugger* uses a standard 64 text display (fast!), and is keyboard oriented.

GEODOWNSIDE

Version 1.0, should you stumble onto it, is buggy and won't properly assemble its own sample VLIR files. A patch is available on QLink which makes just about everything all better. But nothing will make it run properly under the 128 version of GEOS.

All three *geoProgrammer* modules generate error and other related text files as *geoWrite* v1.3 files, so *geoWrite* 2.0 users get an extra feature - upgrade dialog boxes - to add to *geoWrite*'s natural doldrums. Text grabbing is an option, of course, and source from other

assembler packages can be translated fairly easily by setting up syntax differences as macros.

Besides the GEOS program formats (seq and VLIR), *geoProgrammer* can also be used to create non-GEOS C64 programs.

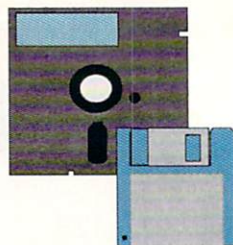
CONCLUSIONS

If much or all of this talk has been so much machine language gibberish to you, then you're probably not in the market for *geoProgrammer*. Wait for *geoBasic* or give *Becker BASIC* a look. If the price is not quite right, you might want to look at the shareware *geoCope* package available on QLink.

But without question, *geoProgrammer* is a unique and powerful development package for the C64 which sets new standards for power, flexibility and ease of use.

COPY CORNER

By David W. Martin



SOMETHING OLD

A great deal of work has gone into *Maverick 2.0* (previously called *Renegade*). This C64 copy program contains almost all of the familiar features you'd expect of an archival backup system, like fast data and file copiers, nibbler and parameter copiers, sector and GCR editors, ML monitor, directory editor, and disk scanner. All these program modules support TurboDOS routines on the 1541 and 1571, but the file copier is the only module that supports the 1581 disk drive. I could go through an entire list of features covering the programs above, but simply put, each is fast, functional, and easy to use.

SOMETHING NEW

A new feature since *Maverick's* "Renegade days" is *GEOS* support. It's the first product to contain a *GEOS* sector editor and file copier that run under the *GEOS* operating system, and the *Maverick* parameter copier removes *GEOS* copy protection faster than Berkeley can think of new protection schemes.

SOMETHING BORROWED

If some of *Maverick's* features seem familiar, it's because many have been ported from established SSI products (i.e. *Hacker's Utility Kit* and *Bulls-Eye*).



RAMBoard

\$34.95 to \$44.95

RAMBoard adds an 8K RAM buffer to a 1541-series disk drive. Used with *Maverick*, it allows users to back up many more software titles than with *Maverick* alone. I found it highly effective, as well as being easy to install and use, since no soldering is required.

★★★★+ **MAVERICK V2.0** **\$34.95**
Software Support International
2700 NE Andresen Road, Vancouver WA 98661, 800-356-1179

These ideas have been enhanced and updated to produce a very complete disk utility and archival backup system.

SOMETHING BLUE

Maverick 2.0 has few noticeable bugs except for one reported to me by SSI: the file copier resets the drives after copying files. This will cause software drives to return to their hardware device number. I've been told that this problem will be fixed in release 3.0 of *Maverick*. V3.0 is also supposed to add REU support, relative file support, and an improved sector editor with help screens, and *GEOS* users will get a program that will allow them to boot *GEOS* from a 1581.

The manual is well done, but it could have been more helpful in explaining some of *Maverick's* more difficult to use features (like GCR and sector editors)

'TIL DEATH DO US PART

SSI offers a new and unique software update service that I have not seen anyone else provide. Registered *Maverick* owners can subscribe to updates and have them mailed automatically to them. Updates consist of parameter modules and program modules each costing \$9.95, which are released every two and four months respectively. Other companies might try this update policy -- it sounds great.

WEDDED BLISS

Maverick weds a collection of fine disk utilities in a package that makes a perfect partner for your disk drives. Although not a flawless five-star saint, I think you'll find *Maverick* very easy to live with. Its price and performance make it the affordable disk copier for Commodore 64 users.

Public Domain

The programs listed here are available on QuantumLink and American PeopleLink, and on other networks, local BBSs, and on public domain disk collections. You don't have to belong to these online services to obtain these programs. But if you're interested, you can get information about signing up for these network services by calling:

QUANTUMLINK:
703-883-0788
AMERICAN PEOPLELINK:
312-670-2666

geoWrite TOOLKIT copyright Rick Krantz 1988

EDIT	Set default margins for editing (40 Column).
PRINT	Set default margins for printing (80 column).
COMBINE	Append 2nd File to end of 1st File.
RULER	Copy ruler (from 'Text Scrap').
ALL FONT	Replace all fonts with 1st font (from 'Text Scrap').
ONE FONT	Replace 2nd font with 1st font (from 'Text Scrap').
FONT/STYLE	Replace 2nd font with 1st font & style. CANCEL

a	k	u	C = c
b	l	v	C = d
c	m	w	C = e
d	n	x	C = f
e	o	y	C = g
f	p	z	C = h
g	q	C = a	C = k
h	r	C = b	C = l
i	s		
j	t		

QUANTUMLINK GEMS

C128 GRADEBOOK

Being a teacher, I spend a good portion of my time dealing with grades, averages, and reports. This PD gradebook program runs in 80 column mode. A menu displays options at the top of the screen, and the first ten students' grades are displayed below. As you enter grades (using either numbers or letters), the first column displays the student's average. I think you'll find the distribution graph and alphabetical/random seating chart sections alone are worth the downloading time. The program can crash if an incorrect graphing range is given, so be sure to save your grade files before you select this option. [Author: Fred Goddard; From: Resource; Location: Learning Center/ Parent-Teacher Information Exchange/ Education software Library/ Teacher Tools]

TOOLKIT

Toolkit is a GEOS application which can be used in conjunction with your *GeoWrite* documents produced with *GeoWrite 2.0* or higher. It has the ability to combine two different *GeoWrite* documents together. You can also change a document to 40 column width for easy reading and editing, and with just two clicks convert the file back to 80 column mode. Other options allow you to change one or two fonts for an entire document. And this program is REU compatible! [Author: Rick Krantz; From: Rmk1; Location: CSS/ Geos Arena/ Software Library/ User Applications/ Part 2]

BEST OF FOX

I'm impressed with this comic strip by Joe Ekaitis, which features the exploits of The Fox, and his friend and foil, the Rabbit. Each week Joe creates a single comic using a combination of computer drawing programs. The BEST OF FOX file contains 10 of Joe's best, along with the *dkslide* viewer program. [Author: Joe Ekaitis; From: Joe E3; Location: CSS/ Software Library/ C-64 software/ Graphics/ Cartoons and digital delights/ T.H.E. Fox Cartoon]

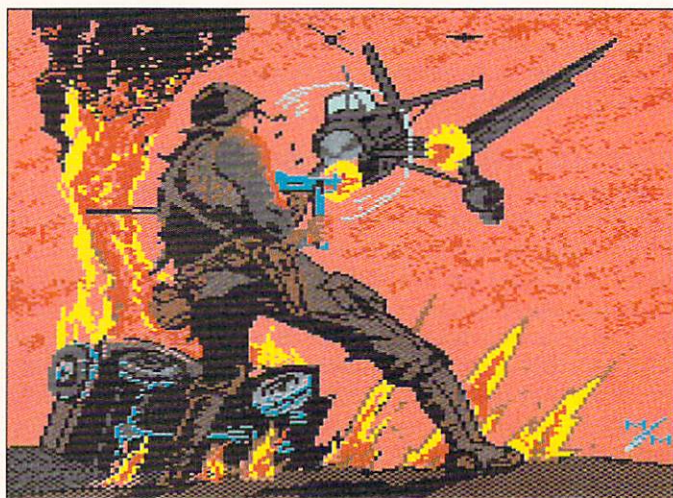
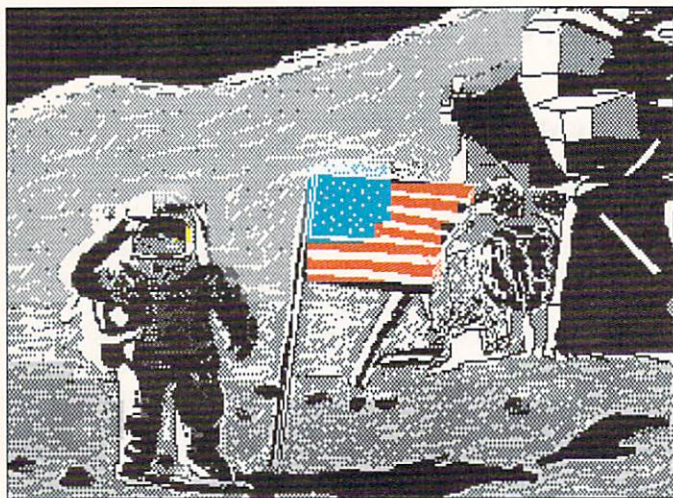
FASTCAD-P1.SDA & FASTCAD-P2.SDA

If you need a graphic package because you never purchased GEOS, then FastCAD may just fill the bill. FastCAD gives the 64 computer the ability to draw lines, circles, arcs, boxes, ellipses, and more on two different graphic screens. You can even add various sizes of text to your graphic, save your picture using several different file formats, and print your picture with an SG10 compatible printer. This is a powerful program, but make sure you save your picture files frequently, as the program sometimes locks up. [Author/From: The Tinman; Location: CSS/ Browse C64- software/ Graphics/ Graphic Toolbox/ Graphic Creation Aids]

-Saul Cohen

Public Domain

... continued



8-BIT PEOPLELINK

GRAPHICS

Graphics and SID files were the biggest uploads since last issue. Some of the best graphics are GGMOONRIDER (#9790), a crunched Koala by Wildstar showing the E.T. poster; Robert McLaughlin's moon landing picture JJSALUTE (#9859, shown), and DocJM's GGMAGIC FIRE (#9787, shown) which depicts a scene from the opera "Die Walkure" where Siegfried comes to awaken Brunhilde, who is surrounded by a magical fire. Other graphic files worth a special mention are SYL's GGHARPSICHORD (#9688), GGLEA (#9727), Wayne Lorenze's JJDRAGON (#9857) and GGYEARCLOCK (#9849), GGEAGLE (#9637), Gene Minkler's GGOWL (#9853), and Wildstar's GGTHE G.I. (#9675, shown). C64 owners can use CR/UNCR/PRINT to view them; C128 owners can use CSLIDE.

SID SONGS

Some of the best SID files uploaded during the past two months are Syl's EARL.MUS (#9839), an excellent bluegrass tune; Z Asis' RONDEAU.MUS (#9598); Brian Copeland's HUMORESQUE.MUS (#9706), a humorous version of Dvorak's classic; Nick Zelinsky's QUINCY (#9835), the theme to the TV show; J.A. Grau's stereo version of EL FRANSOSIN.SLR (#9892), an Italian Renaissance piece; and Whole Note's CANNON IN D.SAL (#9837), a very funny performance of Pachelbel's Canon in D with live graphics -- a MUST download. The last two files need a stereo SID player which plays enhanced SID files. I suggest STRPLAY-ER10.SDA (#8953) by Mark Dickenson.

PRINT SHOP

Kathleen Wright has drawn some magnificent Print Shop graphics (FAUNAPS.ARC - #9871 through #9874). Included in these four ARC files are 33 birds, 37 mammals, and 5 reptiles. They are some of the finest pictures I have ever seen. Use PS DUMP 2.0+ (#5069) to see them (and any other Print Shop graphics) on paper. They are 3-block long files, so you need a non-Commodore printer to use them.

ZIP

ZIP (#9866) will convert an entire side of a disk into four files for ease of uploading to your favorite C64 BBS. If you see files named 1! to 4!, use ZIP to unzip them.

TERMINALS

Several 128 terminal programs were uploaded recently. All but one were upgrades of the standard Public Domain programs (Nezterm and Novaterm). The newest one worth taking a look at is DESTERM128.SDA (#9752). Robert Desmond has written a program which can use ANSI color graphics or VT100/VT52 emulation, user-defined character sets, and Hayes-compatible modems. It uses Xmodem CRC, Xmodem 1K, Ymodem (batch), and Punter C1 transfer protocols. It also contains other standard features found in top-notch programs. It is a welcome addition to the list of terminal programs.

-Bob Umfer [CBM*BOB]

AMIGA PEOPLELINK

HOT FUN!

Here are some recent gems from the AmigaZone libraries to help you while away those long sultry days when you'd rather stay inside in cool comfort in front of your Amiga.

CHECKERS.ZOO [#16,808]

This is the age-old game of checkers for the Amiga, written in *AmigaBasic* and compiled with *AC-Basic* for speed. Two people can play against each other or one player can play the computer, which manages a fairly good game. There are easy levels so that kids can play against Amy, too. The only thing missing is the thrill of spilling the pieces all over the floor after the computer has whipped you a few times!

JEOPARD.ZOO [#16,625]

Here's a good interpretation of *Risk*, a classic board game of global strategy and continental conquest for the Amiga. *Jeopard* allows up to 8 players, and one game can take hours to play. Unfortunately, there is no support for computer players, but if you have a friend and don't need much sleep, it's a great translation of the old board game. One beneficial side effect of playing is the knowledge of world geography you'll absorb as you play.

DMMAP.ARC [#14,956] & DMMAPS8-14.ARC [#15,045]

Dungeon Master, FTL's remarkable roleplaying game, is in a league by itself. This five-star rated game can easily consume all your spare time. If you're weak-willed, hate to draw your own maps or just need to be nudged in the right direction once in a while, here are detailed maps for all 14 levels of *Dungeon Master*.

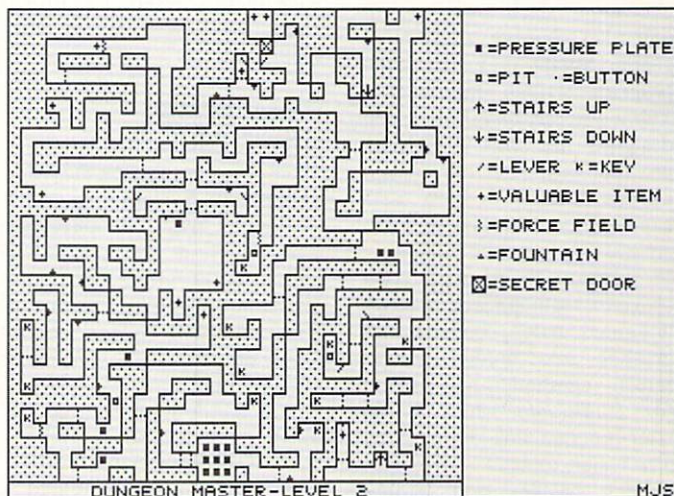
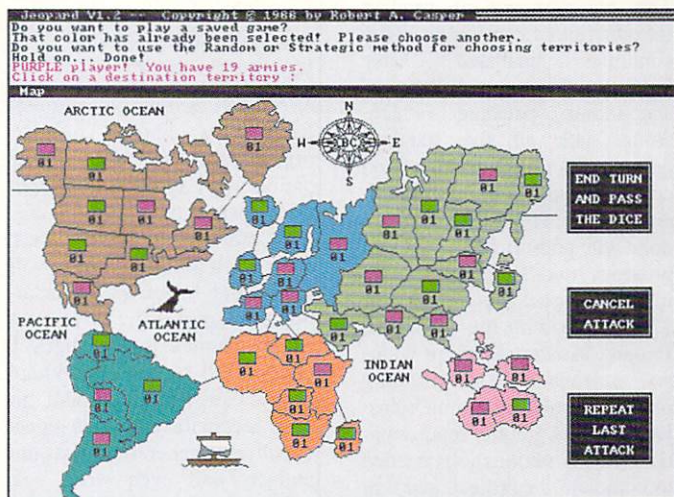
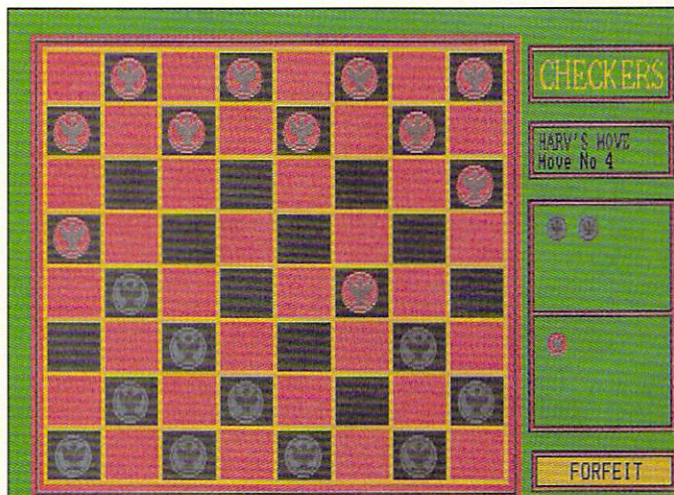
AH-OBJECTS.ZOO [#16,911]

This file holds 12 superb *VideoScape 3D* objects that Allen Hastings created for his movies "Apocalypse Real Soon Now", "Iceberg", and "Halloween 3D". Here you'll find an Apache AH-64 attack helicopter with a full weapons load, the "Arati" building, some traffic signs, two fractal icebergs with built-in blue reflections, a smiling jack-o-lantern with a candle, a wonderfully spooky old Haunted House, and a graveyard.

ARPREL3.ZOO [#16,909]

This is release V1.3 of ARP (the AmigaDOS Resource Project). ARP provides a set of commands which duplicate the function of most of the programs from your WorkBench C: directory, and the 'arp.library' which is used by many applications. The ARP commands are all smaller (written mainly in assembly language) more powerful, and easier to use than their Commodore counterparts, and the wonderful ARP Install program makes it effortless, even for you beginning AmigaDOS users, to move ARP onto your boot disk. Full docs are included. ARP V1.3 is a labor of love by a bunch of very talented developers. A must!

- Harv Laser [CBM*HARV]



New Products & Reviews

... continued from page 19

TUTORWARE

Jumpdisk, the most respected of the Amiga disk magazines, has released **DOS Lab**, an interactive tutorial guide to the mysteries of AmigaDOS 1.3. Written by Brad Webb (whose work frequently appears on *Jumpdisk*), the 2-disk package retails for \$25, and contains 24 chapters of solid information. 1493 Mt. View Ave., Chico, CA 95926. 916-343-7658.

MAKING WAY

The recent spate of product introductions from *Brown-Wagh* continues unabated. **Easy Ledgers** is a small-business accounting package which, along with all the standard ledger functions, handles job costing, budgeting, and financial ratios. The job costing is done via pop-up job cards and provides two styles of invoicing. The package retails for \$295, \$395 with the job cards. **Project Master** (\$195) provides six independent, multitasking planning tools for complex projects. It uses graphic representations of the various jobs needed to complete the project, and will calculate critical paths, resource allocation, slack time, etc. It will also generate all sorts of charts. **Spritz** is a new paint program written by Stephen Vermeulen (*ExpressPaint*) and designed for first-time paint program buyers. It has enough upscale features to keep users happy without bogging down in endless seldom-used functions. In addition to standard paint program requirements, it offers unlimited undos, conversion of brushes into borders (!), a screen snapshotter, and support for *SmartLink*, which is an inter-program link designed by Vermeulen to send and receive images, palettes, and brushes

from other programs supporting it. (For example, it would permit realtime editing of images in a wordprocessor.) Cost is \$79.95. And finally, B-W has released the first three **Madrigal Architectural Libraries**: Floor Plan, Interior Design, and Framing and Foundation Details. Each library of pieces is available in IFF (\$59.95) or CAD (\$89.95) formats, and more libraries are to follow. The CAD format is compatible with Aegis' *Draw* series and Gold Disk's *Professional Page*. 16795 Lark Ave., Suite 210, Los Gatos, CA 408-395-3838.

FONTS, ETC.

Micro Momentum is shipping **Lion Fonts** (\$24.95), a collection of four fonts that are compatible with Synthesis' *Interfont*. That means they can be used with most 3D rendering packages. Each font is complete with upper and lowercase, punctuation and numerals. Also from *Micro Momentum* is **Check It Out!**, a full-featured checkbook utility. For \$29.95, it will not only reconcile your statements, it will also generate reports and budgets and even write your checks for you. You'll have to sign them yourself. 100 Brown Ave., Johnston, RI 02919. 401-949-5310.

DISK ALIGN

Free Spirit is shipping the **Ami. Alignment System** (yes, that's really the way they punctuate the name), a utility that will check any of up to four floppy drives for alignment, speed, and read-write performance. A special calibration disk is included, along with instructions and diagrams for do-it-yourself adjustments. \$49.95. 58 Noble St., Kutztown, PA 19530. 215-683-5609.

DISK-MONITOR VERSION 1.0										INSERT DISK TO EXAMINE IN DF0:									
ROOTBLOCK										Escape # Block \$ Block + Up - Down Read Write Checksum Ascii Hex									
Block #0000 \$0370 Buffer # \$										Checksum \$a7bcd94f NO ERROR !									
0000	00000000	20000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
0020	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
0040	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
0060	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
0080	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
00a0	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
00c0	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
00e0	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
0100	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
0120	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
0140	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
0160	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
0180	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
01a0	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
01c0	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
01e0	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000

The Diskmon Utility from Abacus' AmigaDOS Toolbox

ABACUSTUFF

Along with all the books *Abacus* has been publishing lately, they've also managed to put out a collection of Amiga utilities. *AmigaDOS Toolbox* has several things of note: *Diskmon* is one of the better disk monitors we've seen, with direct editing of sectors supported. *BTSnap* will grab any section of an IFF screen and save it to disk, while *Speeder* is a speed-up utility that isn't a cache system. *DeepCopy* is a fast copier which will handle many different formats, and just for good measure, eleven new Amiga fonts are included. \$59.95. 5370 52nd St. SE, Grand Rapids, MI 49508. 616-698-0330.

ANIMODULE

The latest in *Hash Enterprises'* **Animation** series is the **Editor** module. It is a two-way utility which will allow you to merge animations, parts of animations, or single IFF screens together or perform the reverse operation and take them apart again. It also has the ability to perform file and resolution conversions.

As a side benefit, the module will let you fix a single bad frame in an animation without having to re-render the whole thing. \$59.95. 2800 E. Evergreen, Vancouver, WA 98661. 206-693-7443.

IN SYNC

PageSync is designed to let you combine computer graphics and MIDI audio sources, giving each the ability to control the other. With it, you can precisely integrate the final result. For example, if you have a ball bouncing across the screen, you can have a MIDI drum beat cause the animation to advance (or reverse, if you want) the frames according to the beat, adding the soundtrack as it goes. The process can also be reversed, with an animation controlling a soundtrack. You can get really fancy effects by running the whole works through a genlock, adding a video signal, and recording it onto videotape. \$100.00 from *Mindware*, 110 Dunlop St. W., Box 22158, Barrie, ON L4M 5R3 Canada. 705-737-5998.

New Products & Reviews



PROFESSIONAL DATA RETRIEVE

\$295

Abacus, 5370 52nd Street South East
Grand Rapids, MI 49508, 616-698-0330

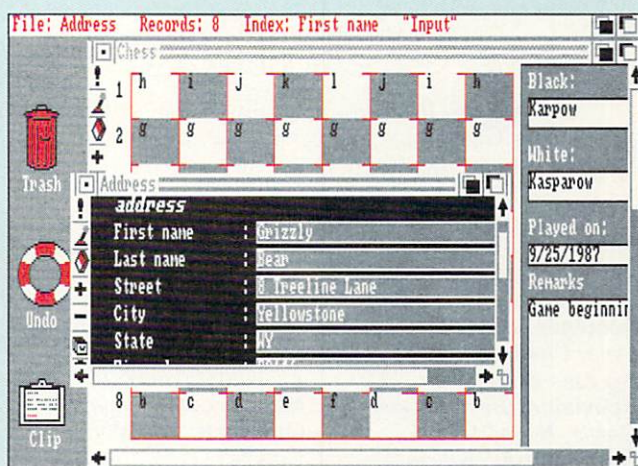
Making sense out of an amorphous mass of data is always a challenging proposition, and there are a variety of tools to assist in accomplishing the job. Abacus Software's *Professional Data Retrieve for the Amiga*, a Data Becker title imported from Germany, is an admirably full-powered programmable database engine that provides about any function you need to wade through oceans of data with a reasonable amount of ease.

PDR operates, as do most modern-day database managers, on the mask principle, which means that all or part of a record can be displayed or printed in any format you choose, and that new display formats can easily be designed. In other words, your records can be shown in different ways for different purposes.

Initial file setup is straightforward, with six types of fields supported: text, date, time, numeric, IFF, and choice. IFF fields are used for external graphics files, while choice fields permit the entry of only certain characters, especially handy for yes/no responses. Once you have the fields defined, you then go to the mask editor. This is where the actual screen display is created. *PDR* always creates a default screen mask for every file, but how successful a file is to work with depends a great deal on how the information is presented. A good mask will greatly speed up operations, as well as make the file more pleasant to deal with. The same editor is also used to create printer and list masks.

PDR is a relational database manager, meaning that information can be accessed from different files as long as the files contain one or more identical fields. As many files as you like can be open at the same time (up to the limits of memory, of course), with each file appearing in its own window. That's a big plus, especially considering that *PDR* supports the Amiga's clipboard device - one of the few programs that does - thus making for easy cut-and-paste between files or applications.

A rather unusual feature of *PDR* is the *pack* function, which has two main purposes. As you delete records, they are not actually removed from the database, but simply marked as deleted. Packing the file will remove the deleted records as well as optimizing search speed. (As a side



benefit, packing will also help reassure you of your data's integrity.) The second function of *pack* is the creation of new (or empty) databases based on a subrange of the main database, which is usually the starting place for importing data from another source.

The strongest point of *PDR*, though, is its programmability. The PROFIL language is a BASIC derivative with a plethora of commands and functions especially tailored for data manipulation. In addition to a full-featured program editor, commands can be entered at any time directly on a command line that appears on the menu bar at the top of the screen. Once a program is written and debugged, it can then be compiled into pseudocode for much faster execution. (A word of advice - be sure to save a copy of your program before compiling it, since a program can no longer be listed or edited once it's compiled.) A program doesn't have to be compiled to run, but the increase in speed of execution makes it well worth the small extra effort.

Professional Data Retrieve obviously has a great deal going for it, with flexibility and programmability in the forefront. Since it is a disk based system, file size is limited only by the amount of storage available. The compiler, along with record indexing, make it very fast. The manual is clearly written and thorough without becoming overwhelming. In putting it through its paces, I didn't encounter any bugs, nor did I find any major weirdnesses. Abacus is offering two free bonus disks with prefab applications and demos to registered owners, and they also have a support line. *PDR* is a much more impressive package than I initially anticipated. If you're in the market for a heavyweight database manager, you just can't go far wrong with *Professional Data Retrieve*.
- Tom Malcom

New Products & Reviews

... continued

COMING SOON

As always, there are a bazillion new games coming soon for the C64 and Amiga. Games that had been released by the time we went to press have been marked with an asterisk (*).

C64

Access: *Tex Mutant, Alien Scumbags*

Accolade: *Jack Nicklaus' Major Championship Courses of 1989*

Activision: *Beyond Dark Castle, Ninja 2**

Broderbund: *Hydride*

Capcom: *Forbidden Worlds, Last Duel, LED Storm, Ghouls and Ghosts, Strider*

Cosmi: *Super Huey*

Stealth: *Assignment Nicaragua, Nuclear Numchucks, Presumed Guilty, Chomp!*, Navy Seal**

Data East: *Heavy Barrel, Super Hang-On, Bad Dudes (May)*

DigiTek: *Hole in One**

Electronic Arts: *Kings of the Beach*

Epyx: *Undersea Commando, Trials of Honor, Devon Aire, Curse Buster*

First Row: *The Honey-mooners**

Hi Tech Expressions: *Fun House, Muppet Adventure, Remote Control*

Infocom: *Battletech**

Lucasfilm: *Indiana Jones and the Last Crusade*

Mastertronic: *California Pro Golf*, Raw Recruit*, Skate Crazy**

Mindscape: *Afterburner (Sega), Shinobi (Sega), Gauntlet II, International Team Sports*, Combat Course (Sega)**

Medalist Int'l: *Dr. Doom's*

Revenge (Paragon), X-Man (Paragon), Traveller 1: The Zhodani Conspiracy (Paragon), Destroyer Escort, Netherworld (Hewson), Exolon (Hewson), Eliminator (Hewson)

MicroProse: *Samurai*

Mindcraft: *The Magic Candle*

Psygnosis: *Baal, Captain Fizz, Menace, Ballistix*

Rainbird: *Savage*

Software Simulations: *Pure Stat Baseball II*

Spectrum Holobyte: *Falcon, PT-109*

SSI: *AD&D Heroes of the Lance, Storm Across Europe, AD&D Hillsfar*, Battles of Napoleon*, Demon's Winter*, Over-run!*

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SSI: *AD&D Heroes of the Lance, Storm Across Europe, AD&D Hillsfar*, Battles of Napoleon*, Demon's Winter*, Over-run!*

AMIGA

Access: *Tex Mutant, Alien Scumbags*

Accolade: *Jack Nicklaus, Jack Nicklaus Course Disk*

Activision: *Rampage**

Capcom: *Forbidden Worlds, Last Duel, LED Storm, Ghouls and Ghosts, Strider*

Cinemaware: *TV Sports Basketball, The Kristal, Lords of the Rising Sun**

Cosmi: *Navy Seal*

Cinemaware: *It Came from the Desert*

Data East: *Robocop, Bad Dudes (May)*

DigiTek: *Joe Blade**

Electronic Arts: *Populous, Powerdrome, Life & Death (Software Tool-*

works), Commissioner's Disk for Earl Weaver Baseball

Eurosoft: *Prospector in the Mazes of Xor**

First Row: *Twilight Zone**

Infocom: *King Arthur, Battletech*, Journey*, Shogun*, Zork Zero**

Lucasfilm: *Battlehawks 1942*

Medalist Int'l: *Dr. Doom's Revenge (Paragon), Destroyer Escort, Pure Stat Baseball II, Netherworld (Hewson), Exolon (Hewson), Eliminator (Hewson)*

Microdeal: *Airball*, Fright Night*, Jug*, Slip Stream**

MicroProse: *Pirates (updated version), F-19 Stealth Fighter*

Microsearch: *Head Coach**

Mindscape: *Fiendish Freddy's Big Top O' Fun, Gauntlet II, Star Trek 5, Harley Davidson: the Road to Sturgis, Afterburner (Sega), Shinobi (Sega), Paperboy, Indiana Jones & the Temple of Doom*, Action Fighter (Sega)*, Thunder Blade (Sega)**

Psygnosis: *Ballistix*, Blood Money, Scroller (working title), Chariots of Fire, (there will be 17 more titles this year)*

Scorpion: *I Ludicrous**

SSI: *Curse of the Azure Bonds, AD&D Pool of Radiance, AD&D Hillsfar*

Visionary Design Technologies: *Datastorm**

STOCK TRACKER

East-West Software has released **Take Stock** to help you keep track of a stock portfolio. It tracks transactions by date, type, or certificate number and will handle a full year's worth of daily quotes for each stock. It also has graphing capability. Retail is \$49.95. 73 Lorna Lane, Suffern, NY 10901.

MODULA MODULE

We received a large box from M2S containing their new **M2Sprint Modula-2** implementation. The list of features reads like a what's what of programming. The software development system contains, among much else, a single-pass compiler, single-pass linker, a symbolic debugger, many libraries (including AREXX and ARP interface libraries), and an integral text editor which has been specifically designed for creating Modula source code. \$385. PO Box 550279, Dallas, TX 75355. 214-340-5256.

BUTTON PUSHER

The latest offering from *Gamma Software* (of *Nag* fame) is **FreD**, a new automatic phone dialler/telephone book. It costs \$49.95 and will keep track, as the press release says, "of up to a million of your closest friends" (memory and social schedule permitting, of course). It provides name, number, and comment fields along with direct access to the Amiga Notepad. It works with or without a modem (just hold your phone mouthpiece up to the speaker and let *FreD* dial). AREXX capability is also built in. 17730 15th Ave. NE, Suite 223, Seattle, WA 98155. 206-363-6417.

New Products & Reviews



SILENTWRITER LC890

\$4795

NEC, 1414 Massachusetts Avenue
Boxborough MA 01719, 800-632-4636

Current standards for high-quality printouts require a high-quality printer -- at least a 24-pin printer for newsletters, etc., or a 300 dpi printer such as the HP DeskJet (reviewed in #24, page 16) or an HP LaserJet-type laser printer. The next step in high-quality output is provided by the PostScript Page Description Language. Where most graphics printers have bitmaps of characters which define the relative position of each dot to print, PostScript uses mathematical descriptions of shapes to allow text and graphics to be scaled and rotated to amazing ranges. Another advantage of PostScript is that the page layout or graphics software does not have to know the resolution of the printer: a printer equipped with PostScript interprets the instructions to the highest resolution possible for the hardware, which can be as low as 300 dpi for a "low-end" laser printer or in excess of 2500 dpi for a professional phototypesetter such as the LinoTronic 300.

The NEC Silentwriter LC 890 PostScript Page Printer is an excellent PostScript printer, used by Commodore at the tradeshow and endorsed as part of an Amiga desktop publishing package. It has everything an Amiga publisher could want short of color. Not actually a laser printer, the LC 890 uses an LED to put the image on the xerographic drum: this small difference in mechanics is invisible to the user.

A big box, the LC 890 measures 20.5" deep by 19" wide by 11.5" tall, with another 10" on top for two (standard) input hoppers. Shipping weight is about 85 pounds, so this is no lightweight. It uses NEC's own engine, rated at 8 pages per minute and requiring up to 20 seconds for the first page. Output goes to a face-down bin on the top, with the option for face-up output through the front. In addition to the PostScript interpreter (both interactive and batch), the LC890 provides Diablo 630 and HP LaserJet emulations. On the backside are Centronics parallel, RS-232C/422, and AppleTalk ports for connection to a variety of hardware. The emulations, input port usage, and input paper hopper are selected from an easy to use four button front panel display. A 32-character front panel LCD display informs you of menu selections and printer status. As with most PostScript printers, it comes supplied with 35 standard fonts (including bold, italics, bold italics, etc.) in nine



typeface families, and other fonts can be downloaded. (Note, however, that downloadable PostScript fonts are not widely available on Amiga format disks.)

In contrast to the popular Canon engine, the LC 890 uses separate toner and drum cartridges. A single toner cartridge (about \$25) lasts about 3000 pages, while the drum (about \$140) lasts about 7000. This approach can be more economical because it lets you get full use out of the drum.

Having had the printer for over a month (and 3200 pages), I have found it to be very reliable and incredibly easy to use. The only shortcoming -- shared by other printers in its class -- is that most applications do not support automatic selection of the printer emulation. Thus, when I send PostScript output when the printer is in HP emulation, the printer gets rather confused and gives me more than a couple of pages of garbage.

The output is generally sharp and clear, with the exception that sometimes large black areas fade a little toward the top. I use the LC 890 at work with an Amiga on a daily basis, primarily with *WordPerfect* and Gold Disk's *Professional Page* and *Professional Draw*. *WordPerfect* is weak on PostScript support, so I use it for the word processing and then export the text to *Professional Page* for the page layout.

While the list price on the LC 890 is \$4795, street prices range closer to \$3500 - \$4000, and mail order houses have offered it for close to \$3000.

In sum: the LC890 is a good, strong, professional quality PostScript printer. It is reliable, easy to use, and an excellent value.

- Tim Sickbert

SINCE THE BEGINNING, AND INTO THE FUTURE



#1 INFO 64, Fall 1983

Premiere issue! Review and product guide, Games, Flexfile 2.1, Sorcerer's Apprentice.

#2 INFO 64, Winter 1983/84

Buyer's Guide to 1000 C64 products, Koala pad, Flexidraw, UltraBASIC-64, Home Accountant vs. C.P.A.

#3 INFO 64, Spring 1984

Product Round-up: 1000 product listings for C64, Superbase 64, Commodore LOGO, C64 Forth, Model Diet, Computer Mechanic.

#6 INFO 64 Spring 1985

Color Gallery! C64 hard drives, Intro to Assembly Language, COMAL 2.01, The Print Shop, Whither C/PM.

#7 INFO 64 Summer 1985

The C128, CP/M 'Best of' & tutorial, Sound Advice on Keyboards, Robotics, Vizastar, Disk copiers, Disk Speedups, and 3 assemblers.

#9 INFO Dec/Jan 1985/86

Expanded C64/128, Amiga color gallery, Guide to C128 software, Network Wars, 1571 Disk Drive Survival Guide.

#10 INFO May/June 1986

Monitor Roundup! C64 word processors, Multiplan for C64/C128, Amiga BASIC, Tips & tricks.

#11 INFO Aug/Sept 1986

Product Roundup issue: over 1500 hardware and software product listings for C64, C128 and Amiga.



#12 INFO Nov/Dec 1986

Graphics report: C64/128 and Amiga painting, drawing, CAD, drafting, video animation, tools and utilities. Idea-processors, 8 bit business software.

#13 INFO Jan/Feb 1987

Games issue: C64/C128 and Amiga games. C64/C128 business and application software (part I), Telecommunication networking, Amiga Music.

#14 INFO Spring/Summer 1987

PRODUCT ROUNDUP! Over 2000 hardware and software products listed for the C64, C128 and Amiga computers. First look at the A500 & A2000 systems.

#15 INFO July/Aug 1987

1st Annual C.H.U.M.P. Magazine! Survival Guide: Commodore-Amiga computing, Anne Westfall interview, COMPUTE! exposed, C64/C128 and Amiga reviews.

#16 INFO Sept/Oct 1987

Graphics Renaissance! GEOS Update, C128 BASIC compilers, Microtrill, Fontmaster, Amiga 500, Sidecar, Genlock, Multitasking.

#17 INFO Nov/Dec 1987

Annual GAMES issues! 39 games for C64/C128 and Amiga, GEOS Update, 16/32 bit comparison, C128 ROM upgrades, B.E.S.T. Accounting, DIGA!

#18 INFO Jan/Feb 1988

Desktop Publishing! Amiga wordprocessors (part I), Virus diagnosed, Geos Update, C64 Powerful Cartridges, C128 Superpak II.

#19 INFO Mar/Apr 1988

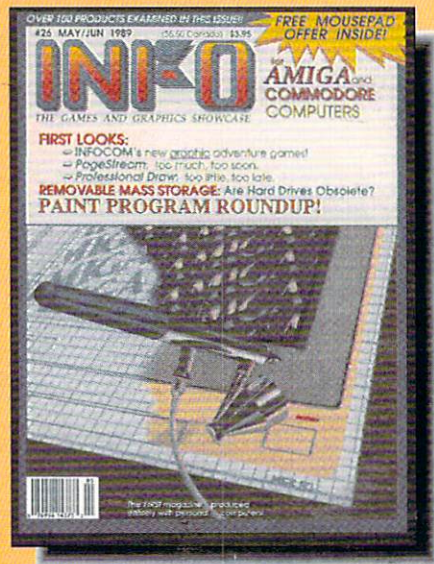
More Desktop Publishing! Amiga wordprocessors (part II), Leo Schwab interview, GEOS Update, ICT hard drive, Digital SuperPak2, Thoughtform.

#20 INFO May/June 1988

Desktop Video: Titlers, genlocks, converters, C64 slide show programs, GeoStuff, INFO visits NewTek, AmigaDos 1.2 Bugs, Joel Hagen tutorial.

#21 INFO Jul/Aug 1988

Second Annual C.H.U.M.P. Magazine! Jay Miner interview, Easing The Upgrade Path, GeoStuff, Virus prevention, Over 40 8 & 16 bit reviews.



#22 INFO Sep/Oct 1988

Fifth Anniversary issue! Digitizing, Mac VS. Amiga, GeoStuff, Over 50 reviews for C64, C128, and Amiga computers, INFOmania Game Tips! BRYCE debut!

#23 INFO Nov/Dec 1988

ANNUAL GAMES ISSUE! OVER 100 GAMES IN COLOR!!

#24 INFO Jan/Feb 1989

Amiga 3D Graphics Round Up, Reichart Von Wolfsheld interview, GeoStuff, SuperBase Pro, Spectrascan, Sky Travel.

#25 INFO Mar/Apr 1989

Amiga Animation Round Up, Rodney Chang interview, C128 T.H.I.S., GeoCalc 128, Dr Term Pro, AC/BASIC, Miceofiche Filer Plus, SID Editor.

#26 INFO May/June 1989

Paint Program Round Up, Loren Lovehaug interview, Removable Mass Storage, 1581 Toolkit, MicroLawyer, WillMaker, Pen Pal, Graphics Tablets, Lightpen, PageStream.

#27 INFO Jul/Aug 1989

3rd Annual C.H.U.M.P. Magazine! Dale Luck interview, Sound & Music, Fractals, Maverick, GeoProgrammer, Masterpiece, Professional Data Retrieve, Silentwriter LC890, Transcript.

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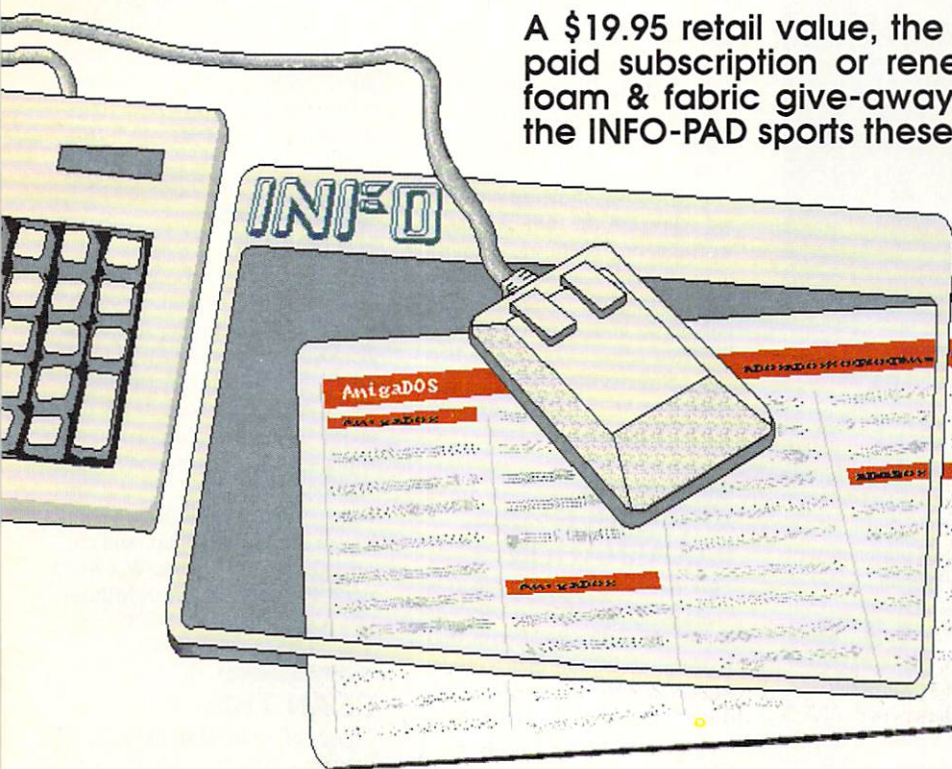
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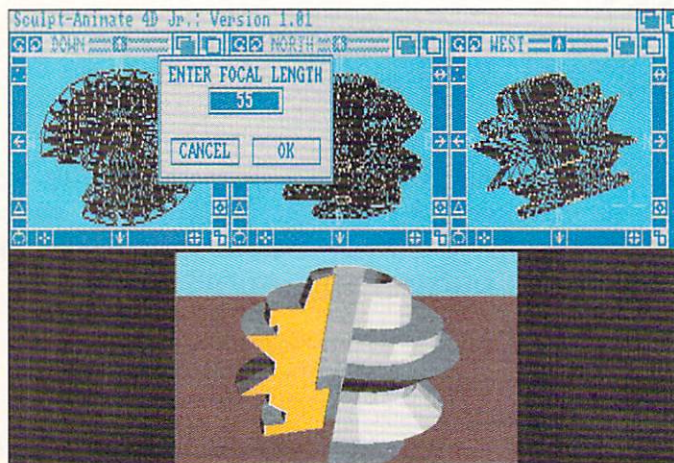


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New Products & Reviews

... continued



Paint mode rendering from *Sculpt-Animate 4D Jr.*

CHIP OFF THE OLD 3D

Sculpt-Animate 4D Jr. is a consumer grade rendition of Byte by Byte's popular 3D rendering/animation package. It's a completely re-written version, designed as an introduction to 3D and rendering, and tailored for use on low-memory machines. Notably missing from this version are Photo mode, spline curves, and paths. If you're looking to get into the 3D world, this title will give you a good beginning, and since the files are compatible with SA4D Senior, you can easily upgrade later on if you find the world of 3D rendering compelling. Price is \$150. 9442 Capital of Texas Hwy. North, Suite 150, Austin, TX 78759. 512-343-4357.

DEEP SEP

ASDG is shipping the **RESEP** (\$59.95) utility they were showing at the New York AmiEXPO. It will insert 24-bit color images into PostScript disk files generated by version 1.2 of Gold Disk's *Professional Page*. The

resulting separations add a whole new dimension of detail to the printed image. In addition to *ProPage*, the ASDG-RESEP was specifically designed to work with images obtained with ASDG's *Professional ScanLab* scanner system. Also new from ASDG is the **Dual Serial Board**, also shown at NY Ami-EXPO. It's a hardware/software combination that plugs into a slot on your A2000 and provides two additional RS-232 serial ports while leaving the Amiga's own serial port fully functional. The software will support multiple boards and up to a total of 36 serial ports. 925 Stewart St., Madison, WI 53713. 608-273-6585.

MACMIGA

The **A-Max** Macintosh emulator from *Readysoft* we've been telling you about over the past couple of issues is shipping. It plugs into the Amiga's drive port and provides a connector for hooking up an external Mac drive, along with external Amiga drives. It comes with file transfer software, though you have to supply your own Mac

ROMs (either 64K or 128K). \$199.95. 30 Wertheim Court, Unit 2, Richmond Hill, ON L4B 1B9 Canada. 416-731-4175.

3D OBJECTS

Gold Disk is shipping their 3D object editor, **Design 3D**, which we previewed in INFO #24. It works on the familiar multiple-window system, with each of four windows showing a different view of the object you're working on. There are a multitude of tools, such as rotation, spin, automatic connection of polygons, and built in 3D text and font editor. \$99.95. PO Box 789, Streetsville, Mississauga, ON L5M 2C2 Canada. 416-828-0913.

VERITABLE ILLUMINATION

True Light Software sent us four disks of music data to use with *Sonix*. Actually, the fourth disk is a PD collection that includes Mark Riley's *Play*. The other three disks contain song after song and score after score in SMUS format, which True Light grants permission to use in your own animations or demos as long as copyright credit is given. Nice guys. \$34.95 and worth it for the instruments alone. 9610 South 1040 East, Sandy, UT 84094. 801-572-2450.

AMIGA HARDWARE

ZIPPING ALONG

Ronin Research & Development is shipping their **Hurricane 2800** accelerator board for the A2000. It is a screamer, using a synchronous 68030 operating at

28 megahertz, with math coprocessor options up to 33 MHz. The board comes with an auto-booting SCSI controller. A companion board, the **M2000**, comes socketed for up to 4 Mb of 32-bit RAM in 1 Mb increments. The whole works populated with 2 megs of RAM retails for \$3300. PO Box 1093, Alameda, CA 94501. 415-769-9325.

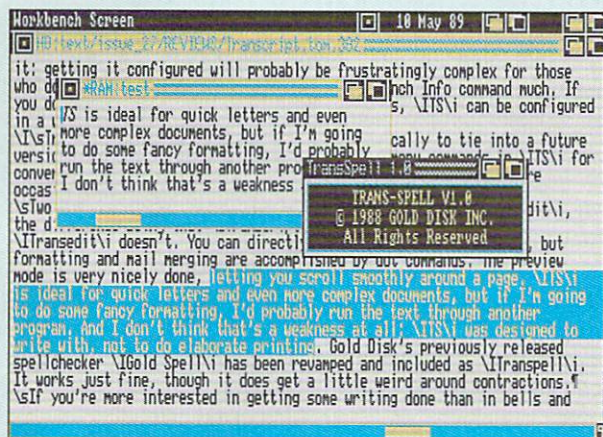
KICK ME

Installing new Kickstart ROMs automatically precludes using some older Amiga software. **KickSwitch**, from KSW, eliminates that problem by adding a small board with sockets for the ROM chips. The user can then flip a switch to determine which version the A500 or A2000 boots with. The ROMs themselves are not supplied, and the price is \$45.00. *The KSW Company*, PO Box 160, West Milton, OH 45383. 513-698-5638.

SCAN THIS

Those of you who have been longing for something like *Thunderscan* on the Mac need yearn no more. *Sunrise Industries* has released **IMG Scan**, a little device that hooks onto your dot-matrix printer and lets you scan anything you can roll around your platen. (That means if you want to scan a banana or an aardvark, you're out of luck.) The printer must support adjustable vertical spacing and have a printhead that moves across the carriage. The scanner works at resolutions of 75, 150, 215, 300, and 360 DPI, depending on the printer, and scans in 256 grey levels. There are separate versions for the A1000 and A500/2000. Retail is \$149.95. 3801 Old College Rd., Bryan, TX 77801. 409-846-1311.

New Products & Reviews



TRANSCRIPT

\$69.95

Gold Disk, PO Box 789, Streetsville,
Mississauga, ON L5M 2C2, Canada, 416-828-0913

Transcript is a writer's wordprocessor designed and written by Chris Zamara and Nick Sullivan, the editors of *Transactor* and *Amiga Transactor*. Being writers themselves, they know what writers want a wordprocessor to be: fast, easy, and as invisible as possible. They've succeeded on all three counts. *Transcript* is the smallest, fastest Amiga wordprocessor I've worked with. The editing controls are thoughtfully laid out (with, at last, a quick and easy cut and paste) and it doesn't get bogged down in endless menus and requesters. If you don't mind getting down to a few nuts and bolts, *TS* can be configured in a wide variety of ways.

Transcript was acquired by Gold Disk specifically to tie into a future version of *Professional Page*, so there are even menu commands in *TS* for converting *ProPage* codes.

Two versions are included on the disk, *Transcript* and *Transedit*, the difference being that *Transcript* has print capability while *Transedit* doesn't. You can directly control attributes on-screen, but formatting and mail merging are accomplished by 'dot' commands. The preview mode is very nicely done, letting you scroll smoothly around a page. Gold Disk's spellchecker *Gold Spell* has been revamped and included as *Transpell*. It works just fine, though it does get a little weird around contractions.

I've done all my writing for the past two issues with *Transcript* and wouldn't be without it. - Tom Malcom

BOOKS

HARDCOPY

The ever-respected Lou Sander has been running the *Tips & Tricks* column in *Commodore* magazine long enough now to release a collection. *Tab Books* has published **Lou Sander's Tips & Tricks for the Commodore 64/128**. It boasts over 600 tidbits of stuff ranging from the arcane to the indispensable and lists for \$21.95 paper, \$31.95 hardcover. From the same publisher also comes the latest from John Iovine, whose hardware expertise frequently appears in *Commodore* magazine. He has released a compendium of columns, **Electronic Projects for Your Commodore 64 and 128** (\$15.95 paper, \$24.95 hardcover). Instructions for keen gadgets such as a lie detector, a speech synthesizer, and appliance controller are given. Blue Ridge Summit, PA 17294. 717-794-2191.

MORE ODDMENTS

Abacus has released **More Tricks & Tips for the Amiga**. It contains 218 pages of odd bits of information such as messages hidden in the operating system. The main sections of the book, though, are about AmigaBASIC and machine code, with program listings included. There's also information on Workbench 1.3. 5370 52nd St. SE, Grand Rapids, MI 49508. 616-698-0330.

TEACHER RESOURCE

We know *Tom Snyder Productions* from their involvement in Infocom's *Infocomics* series of

games, but they have also been involved in educational computing, which explains their publication of **Teaching in the One Computer Classroom**. Written by Dr. David A. Dockterman, the book retails for \$19.95 and offers practical advice to teachers on using computers to lighten their administrative load as well as using the computer in classwork. 90 Sherman St., Cambridge, MA 02140. 617-876-4433.

GENERIC

CORDLESS JOY

Beeshu sent us a prototype of their new cordless **Ultimate Superstick** joystick. The thing works better than some other cordless models we've seen, operating at a greater distance from the receiver and at a wider range of angles. It has all the features we've come to expect from *Beeshu*, like adjustable rapid fire, keen LEDs, and two sets of firebuttons. It takes a 9-volt battery (not, as they say, included) and will retail for \$54.95. 101 Wilton Ave., Middlesex, NJ 08846. 201-968-6868.

AUTOFIRE

If you have a joystick that doesn't have a rapid-fire switch, you can add the capability with a \$19.95 adapter from *DDM Technologies*. **RapidFire** is a little resin-filled plug that fires up to 10 shots per second when the joystick's firebutton is depressed. It is compatible with all Commodore machines. PO Box 921722, Norcross, GA 30092. 404-923-8489.



Missed Directions

continued from page 6

after all these years, and nicely fill the gap at the low end of the market. They have an established base of software support, which is especially good in the games market. If Commodore introduces a new 8-bit machine, the development is likely to stay right where it is: at the C64 level. The C128 proved that. Nobody is going to write software that makes use of new superfast speed and new whiz-bang graphics modes. If they did, the 12 million C64 and C128 users couldn't use it and therefore wouldn't buy it. This is Marketing 101, guys. Think about it.

And if Commodore were to introduce a new 8-bit machine at this point in time, who would buy it? If anyone at all, it would be most likely C64 and C128 owners looking to upgrade, and they are already the most likely candidates for moving on to the Amiga. You're not going to entice Apple II owners with a new 8-bit machine, or first-time users, either. The customers Commodore would be stealing would be their own.

Even if the CGS never comes to market, its development to prototype stage is a tremendous waste of resources at a time when Commodore can't even provide 68020 cards and enhanced Agnus chips for those who want to upgrade their Amigas. It's a waste of resources when they should be concentrating on ways to expand their Amiga line to compete with Apple and IBM. It's a waste of resources when they can't even afford to adequately advertise the Amiga.

Mistakes of this sort have cost Commodore a great deal of credibility in the past, and each time it's happened they have failed to recover the credibility they've lost. Developers, dealers, and customers have walked away in droves every time Commodore has committed a major error. And this could prove to be one of the biggest mistakes they've ever made. It might even prove to be their last.

If Commodore goes forward with the creation and marketing of a new 8-bit machine at this stage of the game, they'll lose any shred of credibility they might still lay claim to. 8-bit and Amiga owners alike will doubt Commodore's commitment to both the Amiga and to their 8-bit line. In the words of one industry wit, "it'll sure sell a lot of MS/DOS computers."

Commodore, look to the future, not the past. Concentrate on a planned, scheduled phase-out of your 8-bit computers that meshes with real-world C64 and C128 sales figures, then concentrate on filling out the Amiga line with two or three new models. Promote the Amiga line. Advertise it. Sacrifice some short-term profits for a long-term position in the marketplace. Concentrate on the Amiga's strengths in video, graphics, sound, and the home game markets.

There are a surprising number of people out there willing to help you do all this. Listen to your customers for a change. Support your third party developers. Talk to the press! And work fast, because you've lost a lot of ground. If you do these things, you'll be successful. If you don't, you'll be dead, and quite frankly, you will have deserved it.

- Mark

Summer Slump

continued from page 6

software company with the courage and vision to introduce a decent product during this time of year and advertise it properly stands to make a bundle.

IT'S TIME TO CHOOSE: WHICH MAGAZINES WILL LIVE, AND WHICH WILL DIE?

Once Upon a Time there was no Amiga (and no Amiga magazines). Then, in the summer of 1985, after months of rumors, the Amiga was unveiled at New York City's Lincoln Center, and suddenly there were 3 magazines with regular coverage of the Amiga: *AmigaWorld* (the only all-Amiga magazine at the time), *Commodore Microcomputing* (the company mag), and *INFO*.

As the Amiga began to pick up more of a following, other magazines were launched (or expanded) to address the new products and developments surrounding the Amiga; along came *Amazing Computing*, *Robo City News*, *Amiga Sentry*, and *Amigo Times*. *Ahoy!* and *Transactor* began to look at Amiga products on a regular basis (finally spinning off *AmigaUser* and *Amiga Transactor*), *Compute!* and *Computer Shopper* began Amiga sections, and even a few disk-based "magazines" materialized (*AMNews*, *AX*, and *Jumpdisk*) to help keep Amigans informed and amused.

Even at that stage, the Amiga had the distinction of having the highest ratio in the industry of publications to users. In recent months, incredibly, two more latecomers have thrown their hats into the ring (*Antic's Amiga Plus* and *Compute!'s Amiga Resource*).

So now you have 14 individual Amiga-Specific titles vying for readers, shelf space, and advertising pages, in the smallest of the computer-specific markets (except maybe Atari). You don't need a college degree or a spreadsheet to figure out that not all of us are going to be here for next year's Summer Slump.

It's time for readers and advertisers to vote for the magazines they want to survive.

How can readers vote? Make a mental list of the titles that you want to see make it: Subscribe to at least those at the top of your list. Resist buying a magazine that isn't on your list, even if it has a scoop review of "Cosmic Mega Hyper Zap" (one of the magazines on your list will review it soon, and do a better job). Complain to companies (with a postcard or phone call) that aren't supporting your favorite magazines with their advertising.

How should advertisers vote? Look beyond the short-term, low bid, temporary discount ad deal. The cheapest ad is not necessarily the best ad. Think about supporting the magazines that truly support the users that eventually pay your rent. Consider which titles have actually contributed to and helped build the Amiga community, and which magazines only came out of the woodwork after their spreadsheets showed a way to make a fast buck off the Amiga. Good magazines help consumers to be informed and interested. Informed and interested consumers buy your products (when the good magazines show that they are worth buying). If you

plow your revenues back into cut-rate ad space in low-rent publications, you are really just undermining your own future, as well as everyone else's in the process.

If you need help deciding, here's our list of yeas and nays (and why):

YEAS (in order of preference):

- 1) **INFO:** of course.
- 2) **AmigaWorld:** Has been covering Amiga since its introduction. Slick format looks good and generates respect and legitimacy for Amiga in marketplace. Extensive advertising promotes excitement and consumer awareness. Complements INFO with good selection of articles and features.
- 3) **Amiga Transactor:** Long standing. Fills need for technical perspective. Produced by genuine Amiga fans with Amigas.
- 4) **Robo City:** Strongest user perspective. Hard-core Amiga fans. Uses Amigas extensively in production of issues. Lots of personality.
- 5) **Amigo Times:** Colorful, stylish, and Amiga-produced by sincere Amiga fans.

NAYS (in the order they should graciously exit):

- 1) **Compute!'s Amiga Resource:** Where were these guys when users *needed* more Amiga magazines? Using corporate wealth to wage ad price war that threatens all the decent Amiga mags.
- 2) **Antic's Amiga Plus:** Do you really want to get your Amiga information from an Atari publishing company hedging their bets at this late date as the Atari slides?
- 3) **Amiga Sentry:** Review-only format with emphasis on "scooping" other magazines often results in premature reviews of questionable accuracy and value. Not a well-balanced diet for readers. Amiga deserves more color pages.
- 4) **Amazing Computing:** An Amiga magazine produced on a Macintosh? Offers nothing not already available from upper list.
- 5) **Ahoy! Amiga User:** After several postponements since their last issue, this is probably a moot consideration.

-Benn

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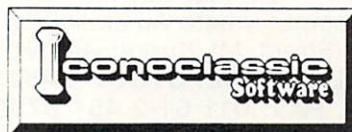
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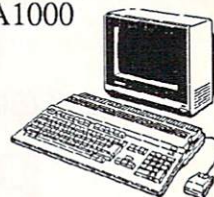
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- 72 Cardinal Software
- 75 Comp-U-Save
- 3 Computer Mart
- 74 Computermate
- 72 Creative Micro Designs
- 71 DDM Technologies
- 73 Fuller Computer Systems
- 73 Iconoclassic Software
- 66 INFO Back Issues
- 67 INFO Mouse-Pad Offer
- 76 INFO Unclassifieds
- 9 Lake Forest Logic
- 7 Melbourne House
- C4 NewTek, Inc.
- 74 One Byte
- 71 Pixelations, Inc.
- 74 Redmond Cable
- 15 Software Support Intl.
- 16 Software Support Intl.
- 17 Software Support Intl.
- 5 Softwood, Inc.
- 71 SOGWAP Software
- 74 The Memory Location
- C3 TSA Media
- 71 Twin Cities 128
- 38 Visionary Design Technologies
- 39 Visionary Design Technologies

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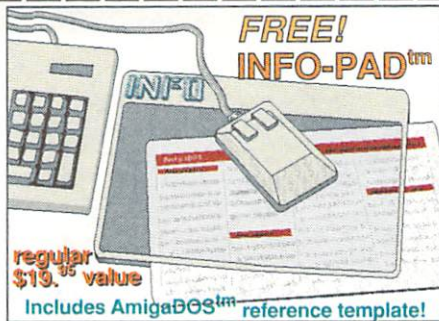
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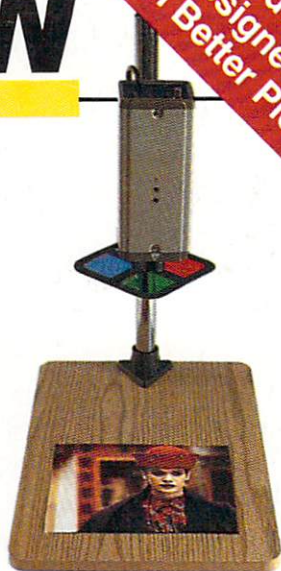
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